

Knitted Outerwear Times

the official publication of the
national knitted outerwear association

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sweaters • swim suits • infantswear • knit fabrics • polo shirts • gloves • headwear

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Vol. 29

MONDAY, SEPTEMBER 19, 1960

No. 38

Obituary

H. H. Cohen Dead; PEKOMA Counsel

PHILADELPHIA, Pa.—Hyman H. Cohen, attorney and founder of the Knitted Outerwear Manufacturers Association, Pennsylvania District, died on September 10 at the Albert Einstein Medical Center. He was 67.

Hy Cohen was the original secretary and counsel for the area's knitted outerwear producers group when it was established over 35 years ago. In 1951 he relinquished the post of executive secretary because of ill health, but continued as counsel for the district association. He also was legal counsel for many members of the local knitwear industry.

Mr. Cohen was considered an authority on labor law and was a member of the panel of arbitrators of the American Arbitration Association. He negotiated the first industry-wide contract with the Knitgoods Workers Union in Philadelphia. Over the years he earned the continuing respect of both industry and labor.

He attended every conference and outing of the Pennsylvania association, including the latest one in June at Shawnee Inn.

Industry leaders credit Mr. Cohen with being responsible for keeping the local knitted outerwear association together during the depression. At that time there were only about 10 members in the organization.

He was a graduate of South Philadelphia High School, Swarthmore College and Temple University Law School. He maintained offices in the PSFS Bldg.



H. H. COHEN

Mr. Cohen also was active in Jewish communal affairs and served as past treasurer and board member of Gratz College and the United Hebrew Schools and Yeshivos of Philadelphia. He also was a past president of the Hebrew Immigrant Aid Society and of the Oak Lane Lodge of B'nai B'rith. He also served on the board of Mikveh Israel Synagogue and the Jewish Foster Home, and was active in the Allied Jewish Appeal. He was a veteran of the First World War, a member of the Philadelphia Bar Association and a Mason.

He is survived by his wife, the former Clara Rosenfeld; two sons, three brothers, a sister and four grandchildren.

Funeral services were held on September 11.

In a statement on Mr. Cohen's passing, Sidney S. Korzenik, NKOA executive director and counsel said:

"For over 40 years Harry Cohen served as counsel and guide to hundreds in the industry. But not by the span of years alone is his service to be weighed

(Continued on Page 38)

Trade Promotions

15th National Sweater Week Opens With 1960 Sweater Queen Coronation

SELECTION and coronation today of the National Sweater Queen of 1960 at the Waldorf-Astoria, New York City, will open the 15th annual National Sweater Week. More than 15,000 retail stores throughout the U.S. are expected to tie in the promotion with their sweater ads and displays. The Week, which will run to next Sunday, is sponsored by the Knitted Outerwear Foundation, promotional affiliate of the National Knitted Outerwear Association.

Twelve models, chosen out of 200 from all over the U.S. and West Europe, will compete for Sweater Queen. A Sweater Guy, an actor currently appearing on Broadway, will crown the winner.

The judges will be industry executives and representatives of the press, radio, television and newsreels, who are expected to give extensive coverage to the event, as in past years.

In addition, a Miss Sweater Girl 1975 will be chosen from four 4-year-old finalists.

The NKOA has arranged a detailed program to assist retailer observance of Sweater Week. Some 7,000 comprehensive advertising, promotion and sales training kits have been distributed to leading stores, chain and mail order houses. The kits contain advertising mats, window display material, posters of several sizes, booklets, badges, wear-and-care information and suggestions for tie-ins.

In the past few weeks leading advertisers have already mentioned Sweater Week in their ads to the trade.

The kit material enables the retailer who for some reason cannot observe Sweater Week this week to create his own

sweater week at his convenience.

The Foundation also has distributed a 225 word script to 2200 radio and television stations, which will bring Sweater Week to consumer attention and describe style, color and fiber developments.

A cartoon mat depicting highlights from the history of sweaters has been reprinted in many of the 8,000 papers to which it was sent.

Men's Sweater Market Showed July Increase

Average weekly shipments of men's sweaters were 102 percent higher in July than in June, according to the Census Bureau.

Some 89 thousand dozen were shipped in July compared to 44 thousand dozen in the previous month.

The July shipments were six percent higher than the 84 thousand dozen shipped in July 1959.

Shipments of ladies' sweaters during July totaled 880,000 dozen, down five percent from shipments in the previous month, the Bureau of Census also reported. Ladies' sweater shipments in July were also five percent lower than shipments in the corresponding month last year. Shipments in July, 1959, amounted to 925,000 dozen and in June, 1960, 922,000 dozen.



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Canadian Textile Seminar

Recent Trends In Knitwear Technology

By CHARLES REICHMAN, Editor

The technology of sweater and knitted yardgoods manufactured in the U.S. continues to undergo spectacular change. Ever since the end of World War II, the knitted outerwear industry across the border has been in a state of near-perpetual technological ferment, resulting chiefly from the need continually to adapt its operations to the almost steadily sustained record demand for its products over the past decade. Although it would be far too time-consuming to chart in detail the changes in knitted outerwear technology that have taken place over the years, their significance can be indicated by a review of current trends in the following raw material and equipment areas:

- Natural and synthetic fibers and yarns.
- Circular sweater-strip and full-fashioned knitting equipment.
- Circular outerwear fabric machinery.

Spun Synthetic Fibers and Yarns

Manufacturers of sweaters and knitted yardgoods are utilizing only a selected few of the numerous fibers and fiber types presently commercially available in the United States. Of the four acrylic fibers on the U.S. market—Acrilan, Creslan, Orlon and Zefran—Orlon unquestionably enjoys the greatest acceptance in the knitted outerwear industry followed by Acrilan. Although Creslan marketing activity has been stepped up in the past few months, the fiber thus far has been used only to a limited extent by sweater and yardgoods knitters. Use of Zefran appears to be confined to a few daring experimentalists in the trade.

In addition to the four acrylic fibers just cited, other synthetics in use in modest quantities for sweaters and circular knit yardgoods are Arnel triacetate fiber, Dacron, Kodel and Vycron polyester fibers and Darvan myril fiber. Also being tried on a limited scale are some of the newer rayon fibers, notably Corval and Avron.

ORLON—In their use of this DuPont acrylic fiber, sweater and yardgoods knitters have their choice of a variety of fiber types: Orlon 42 in fine and

coarse deniers; Orlon Sayelle bi-component fiber; and the recently announced Orlon 72. Orlon 42 is used in both fine cut and bulky knit sweaters and fabrics. For fine cut knitting, 3-denier Orlon high-bulk yarns produced on the Turbo Stapler or the cotton spinning system are emphasized; for bulky knits, 6 and 10-denier fibers processed into yarn via these two routes are favored.

Orlon Sayelle is a relatively new fiber dimension which lends itself remarkably well to employment in bulky knit sweaters and fabrics. Although it has a close physical and chemical kinship to Orlon 42, Orlon Sayelle possesses a completely different set of reaction properties, chief among which is the property of crimp recovery after machine washing and drying.

Orlon 72 has been on the market only a couple of months. Designed as an especially suitable blend ingredient with cotton, Orlon 72 should find its best employment in the knitted yardgoods branch of the industry in varying proportions with a good grade of combed cotton. It is deemed to be a more desirable product than Orlon 25, which has up to now been touted as the DuPont acrylic fiber most useful for blending with cotton. Orlon 72 comes in a finer denier than Orlon 25—1.5 denier as against 2.5 denier for the latter. This means that Orlon/cotton knitted fabrics containing the new acrylic staple can be finer, smoother, softer and thus more comfortable against the skin than knit cloth containing the somewhat heavier denier Orlon 25.

A major property of Orlon 72, and its chief advantage over Orlon 25, is an inherent fluorescent brightness achieved by mixing an optical bleach right into the fiber-forming solution. This built-in whiteness is claimed to be permanent and said to be

comparable to the whiteness of bleached cotton.

Text of talk delivered in absentia at the Seventh Canadian Textile Seminar held Sept. 7 and 8 at Queen's University, Kingston, Ontario. Mr. Reichman's paper was read by James H. Blore, director, fabric research and development, Fair-Tex Mills, Inc. Mr. Blore also presented his own paper, "Engineering New Knitted Fabrics from Man-Made Fibers," at the conference.

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ACRILAN—Tubular fabric is the chief knitting area in which Acrilan is being used in the States. But this Chemstrand acrylic fiber is beginning to create a stir again in the sweater field in the form of a blend of conventional Acrilan and a new type called Acrilan 16. This new version of the Chemstrand acrylic fiber has wholly different dyeing characteristics from regular Acrilan. Unlike the latter, which can be dyed only with disperse dyes for light shades and cationic dyes for medium and dark shades, Acrilan 16 has an affinity for acid, chrome, neutral, premetallized and other wool-type dyes. Because of the different dye affinities of these two fibers, Acrilan sweaters and yardgoods can be produced embodying unusual heather, cross-dye pattern and stripe effects.

Actually there appears to be no limit to the contrast-color effects that can be achieved when full advantage is taken of the different dye properties of Acrilan 16 and regular Acrilan. Stripe effects can be produced by knitting alternate panels of regular Acrilan and Acrilan 16. The jacquard pattern treatments are knitted by setting up the machine for selection of the regular Acrilan and Acrilan 16 yarns in accordance with the pattern set-out. Heather effects may be obtained by using pretwisted yarns of regular Acrilan and Acrilan 16, the twisting being done either at the roving frame or at the normal yarn twisting stage. Heather motifs are also producible by the double and twist method of plying singles yarns of different colored regular Acrilan and Acrilan 16.

(Continued on Page 5)

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One of the factors which undoubtedly underlines the limited acceptance of Creslan in the sweater field, aside from company-imposed restrictions on its marketing, is the inability to process this fiber into a high-bulk yarn. An ingenious technique has been developed for overcoming this drawback. It involves treating the yarn, after spinning, on Taslan texturizing equipment. This post-spinning operation serves to produce an effect somewhat similar to high-bulking; namely, an increase in the yarn's effective diameter.

ZEFRAN—Use of Zefran in this sweater field continues chiefly on an experimental basis. The fact that this fiber too cannot be processed into high-bulk yarn is believed to be one of the major obstacles to its commercial acceptance in the sweater field. Most of the work presently being done with Zefran is in knitted yardgoods and takes the form of combining it with other fibers, notably flax and wool.

DARVAN—Sweaters knitted of X-7 Darvan, a more dyeable version of this nitril fiber, are on the U.S. market on a small scale. With Darvan now owned by Celanese, it is anticipated that eventually its utilization in sweaters and tubular knitted fabrics will be substantially broadened.

KODEL—This Tennessee Eastman polyester fiber is making a limited-scale debut in the men's sweater field in the form of a 50/50 blend with wool. The sweaters are of bulky knit construction and come in a range of tone-on-tone heather effects. The part Kodel, part wool yarns are spun on the Bradford worsted system of 4.5 denier semi-dull Kodel tow having a total denier of 450,000 and territory grade wool. The

wool component is stock dyed and then blended into top with the Kodel. Dyeing of the Kodel portion is accomplished via skein dyeing, utilizing a disperse dyestuff. The latter colors the Kodel and slightly stains the wool.

ARNEL—This triacetate fiber also is in limited use in the industry. In sweaters, it is employed in the form of a fifty-fifty blend with Turbo-processed Orlon. The essential value of this mixture is that the Arnel triacetate component of blend, following relaxation of the sweater fabric after knitting, is thrown to the surface. As a result, the triacetate tends to impart to the fabric improved pill resistance as compared with sweater fabrics of 100 percent Orlon. In addition, the triacetate contributes to the fabric improved dimensional stability and a softer more comfortable hand. By varying the denier of the Arnel and Orlon components of the yarn as well as the high and low shrinkage content of the DuPont acrylic ingredient, a variety of different yarn and fabric effects can be produced. Arnel/Orlon yarns, because of their different chemical composition, also can be used to produce unique and novel heather and marl effects by reserve dyeing procedures.

Textured Filament Yarns

Although there has been some decline in trade and consumer interest in sweaters knitted of Ban-Lon and other modified filament yarns, these still play an important role in ladies' sweaters and men's sweater-shirts. Of particular interest is the recent development by the Bancroft Company of a new core crimper which would permit package dyeing of Ban-Lon processed yarns without loss in yarn loft or bulk. The advantage of this development is that it would permit knitters interested in working with textured yarns to turn out garments embodying a variety of multi-colored jacquard designs from dyed textured yarns.

In addition to these new core-crimped Ban-Lon yarns, other developments of major significance center on extension of the modified thrown yarn principle to synthetic filaments other than nylon 6.6; specifically, to fila-

ment nylon 6, filament Dacron and filament Orlon.

TEXTURED ORLON FILAMENT—Although there is some utilization of Orlon Cantece by sweater knitters, thus far only a limited number of full-fashioned knitters have handled this modified DuPont acrylic filament yarn in their plants. The Orlon Cantece yarns which these mills have been knitting are produced either via one of the twisting and untwisting procedures or the special J technique developed by the producers of Tycora yarns. Ever since Orlon Cantece made its debut on the market, Ban-Lon throwsters have been hopeful of modifying their process to texture Orlon filament yarn. Thus, far, however, it has been difficult to develop a suitable Bancroft-processed Orlon Cantece yarn because of the inherent heat sensitivity of the DuPont filament.

TEXTURED DACRON FILAMENT—Use of textured Dacron filament yarn in sweaters is presently restricted. The appearance on the market shortly of competing polyester fibers, however, may lead the DuPont Company to reconsider its reluctance up to now to accord merchandising support to the limited lines of textured Dacron sweaters now available. The few textured Dacron sweaters that have been offered consist of garments knitted on either 24 gauge full-fashioned machinery or 14 to 16½ cut interlock sweater-strip machines.

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Natural Fibers And Yarns

The principal natural fibers used in the manufacture of sweaters and knitted outerwear fabrics are wool and cotton. Both these fibers are used in relatively large volume by the yardgoods knitters. Sweater knitters, on the other hand, use cotton rather sparingly unless they also turn out knit shirts, T-

blouses, etc.; mostly, in the natural fibers category, sweater knitters favor wool.

WOOL—In contrast to previous years, sweater knitters are using more wool-content yarns than ever before. The renewed interest in wool is not confined, as in the recent past to special regional wools, such as Icelandic, Shetland and Welsh Mountain wools, but extends over virtually the whole range of sheep's wool grades in addition to such specialty hair fibers as mohair and alpaca, preponderantly the former.

With the brushed look currently popular in sweaters, it is only natural that mohair should be experiencing a strong comeback in sweaters since this fiber lends itself so well to the raising of a hairy surface. Angora too is finding greater favor among sweater knitters in the form of hairy angora sweaters and as one of the blend ingredients along with lamb's wool and nylon in fur fiber knits. Yardgoods knitters who have always used wool extensively in their single needle jersey fabric lines find this natural protein fiber the ideal raw material for their new "double jersey" cloth lines.

COTTON—Cotton is the industry's most important hot weather fiber. Despite increased competitive pressure from Orlon, Acrilan and other synthetic fibers, cotton is holding its own quite nicely in those knitted apparel areas in which it has long been dominant. In their use of cotton, outerwear knitters have been pursuing an upgrading policy, utilizing yarns of better grade and longer length staple fibers. Trade consumption of mercerized combed cotton yarns is now at an all-time high.

Chief U.S. product areas for cotton are knitted shirts for all age and sex groups, knitted dresses, T-blouses and slacks, and knitted swimwear. In the latter end-use, cotton is invariably combined with a covered rubber yarn on either the lay-in or knit-in principle.

OTHER NATURAL FIBERS—In concluding my observations on natural fiber yarns, I should like to comment briefly on silk. A number of knitters of ladies' high-priced sweaters and men's better-grade sweater-shirts have been giving serious considera-

(Continued on Page 7)

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With the brushed look currently popular in sweaters, it is only natural that mohair should be experiencing a strong comeback in sweaters since this fiber lends itself so well to the raising of a hairy surface. Angora too is finding greater favor among sweater knitters in the form of hairy angora sweaters and as one of the blend ingredients along with lamb's wool and nylon in fur fiber knits. Yardgoods knitters who have always used wool extensively in their single needle jersey fabric lines find this natural protein fiber the ideal raw material for their new "double jersey" cloth lines.

COTTON—Cotton is the industry's most important hot weather fiber. Despite increased competitive pressure from Orlon, Acrilan and other synthetic fibers, cotton is holding its own quite nicely in those knitted apparel areas in which it has long been dominant. In their use of cotton, outerwear knitters have been pursuing an upgrading policy, utilizing yarns of better grade and longer length staple fibers. Trade consumption of mercerized combed cotton yarns is now at an all-time high.

Chief U.S. product areas for cotton are knitted shirts for all age and sex groups, knitted dresses, T-blouses and slacks, and knitted swimwear. In the latter end-use, cotton is invariably combined with a covered rubber yarn on either the lay-in or knit-in principle.

OTHER NATURAL FIBERS—In concluding my observations on natural fiber yarns, I should like to comment briefly on silk. A number of knitters of ladies' high-priced sweaters and men's better-grade sweater-shirts have been giving serious considera-

(Continued on Page 7)

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tion to the use of reeled silk. Reeled silk should not be confused with spun silk which is produced from cut lengths of silk; it is most closely akin to the textured filament yarns. Some knitters have been reluctant to utilize reeled silk yarns because of lack of any knowledge of how this fiber will perform in knitting and dyeing. Actually, these fears have been proved unwarranted. Reeled silk yarn is being knitted in the gum and dyed in garment form.

Circular Yardgoods Machines

The growing popularity of so-called double jersey fabrics for knitted dresses is creating a minor equipment revolution in the American knitted yardgoods industry. In their equipment purchases, yardgoods mills in the States are today emphasizing fine cut machines capable of producing such popular European double-jersey structures as single and double pique, eightlock and bourrelet in plain and jacquard patterns. Because of the tardiness of U. S. equipment manufacturers in recognizing this trend, American fabric knitters have been forced to rely chiefly on foreign-made circular yardgoods machinery; specifically on the Morat jacquard machine; the Terrot Model RMR; Leboeuey's Nopavit; the Bentley Model 4RD; Dubied's Wevenit A24 and B24; and the Mayer Overnit, to mention the better known units.

Dubied's B24 is a scaled down version of the company's WEVENIT fabric machine, the A24, which produces its patterned fabric by means of pattern wheels and the monofilament steel band system of needle selection. In developing the B24 Dubied apparently felt that there was need for a machine that could turn out Wavenit type cloth in solid color or small designs up to eight colors. The patterning is achieved in the B24 via two-color strippers on all 24 feeds. The machine is equipped with long and short needles in the cylinder and dial. Naturally, the B24 turns out fabric at a much faster clip than the A24.

The Morat machine is a cylinder and dial jacquard unit. The wide variety of patterned goods producible on it is made possible by a unique system of pat-

tern wheels and Bowden cables. The cylinder is equipped with a uniform set of needles while the dial houses two different types of needles. The pattern wheels are made operative by a special pattern setting device.

The Mayer Overnit jacquard machine, instead of pattern wheels, is equipped with pattern drums. Use of the latter is claimed to result in the production of designs without the spiral characteristic of tubular knitted cloth. Structures producible on this machine include two-, three- and four-color plain back, twill and double twill cloth. In addition to relief type materials in rib, interlock and jacquard effects, the machine can also be used to produce plain rib or plain interlock fabric.

The jacquard pattern drums are positioned on each of the machine's 24 feeds. Needle selection is accomplished by means of pins in the pattern drum acting on pattern jacks and slides. The standard model of this machine comes in 30 inch diameter with 16 needles per inch in both cylinder and dial. The 30 inch model produces cloth approximately 28 inches to 34 inches in width.

The Terrot Model RMR is a 30-inch cylinder and dial machine with 24 feeds and available in 16 cut. Patterns producible are one-, two- and three-color jacquard designs and blister stitches with either plain or twill back. Single color designs are 144 courses in depth while the two-and-three color designs are respectively, 72 and 48 courses high.

Like on the Morat machine, the pattern wheels are prefilled with jacks. The wheels thus may be quickly set up in accordance with any desired design or pattern by means of a separate selector device which operates on the push key principle.

In an effort to stem the tide to the foreign-made double jersey machines, American circular yardgoods machinery builders have stepped up their efforts in the direction of plain and fancy rib fabric equipment.

Right now the only machines that are capable of producing an approximation of the heavy rib and pique fabrics used in the double jersey dresses are the Brinton FR-19 machine and two Supreme models, the SAI/PP

and the IRW/2.

The first Supreme unit was originally introduced for the manufacture of fancy pattern elasticized swimwear cloth. It is, of course, being used for this purpose, but in view of the double jersey trend its potentialities in that area are now also being pointed up.

The second Supreme machine, the IRW/2 was first introduced at the Atlantic City show in May, 1959, and it was billed at that time as Supreme's answer to Scott & Williams Model FR-19. It too is equipped with oversize pattern wheels.

The Wildman-Jacquard Company, which is primarily a manufacturer of sweater-strip machinery, appears to have also been bitten by the double jersey yardgoods bug and has just announced plans for the manufacture of yardgoods unit competitive with the Supreme and Brinton units and with the fancy rib pattern wheel machines.

Wildman-Jacquard's version, called the JDS-24, is a 30-inch diameter unit available in up to 14 1/4 cut with either single or double needle control and up to 18 cut solely with double needle control. It has a jacquard needle selecting mechanism on each of its 24 feeds and 12 four-color striping boxes.

Actually, this machine is basically a revision of the company's old Model MLW long used for the manufacture of elasticized swimwear fabrics. The new JDS-24 parts company with the Model MLW largely in the manner in which the cylinder needles are selected. On the Model MLW it is done with oversize pattern wheels; on the new machine with jacquard card control.

Circular Sweater-Strip Machinery

In circular sweater-strip equipment, the basic requirements of sweater knitters today center on machines of inherent design flexibility. Instead of single-purpose, multi-feed interlock units possessing high rates of productivity, the demand has shifted to machines capable of producing a variety of knitted structures rather than a limited kind of fabric such as interlock. This is true not only in ladies' sweaters where style diversity has always ruled, but it extends to the men's and boys' sweater

field as well. In these product sectors, strong demand for bulky rib knit garments, for example, is serving as the stimulant for machinery manufacturers to convert existing sweater-strip models into units capable of reproducing the versatile type of jumbo stitch structures which are most successfully produced on V-bed flat machines.

Of significance along this line are the recent innovations of the Wildman-Jacquard Co. and the Ordnance Gauge Company, which along with the Leighton Machine Company, are the leaders in the manufacture of circular sweater-strip equipment. Both companies have recently placed on the market machines which are claimed to produce on a circular basis the rack structures similar to those presently knitted on the tubular principle on the well-known Leighton three needle selective and transfer rackers.

Ordnance Gauge for example, has added to its conventional Model OTA machine an attachment and a special set of cams which permit the production on OTA units three-cut and up, panels of rack rib structure. In the production of these rack panels, operation of the machine continues at its normal speed. In the course of racking only the cylinder is jogged while the dial remains stationary.

Much the same rack stitch effects as produced on the Ordnance Gauge's Model OTA can be accomplished on Wildman-Jacquard's Models TA, TAI and TJI machines. The only difference is that on the Wildman-Jacquard units no special attachments of any kind have to be employed. The rack stitch effects are produced by rearranging the placement of the needles and changing the selection of knitting feeds. In principle, it means that advantage is taken of the fact that some needles are held in a welt position between one feed and another. Since these needles do not intermesh, they can be employed to produce desired rack stitches providing, of course, enough room is left between the needles for the racking action. In other words, what is done here is that the sequence of knitting feeds is varied to take advantage of the needles in the welt or non-knitting position.

(Continued on Page 9)



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The Wildman-Jacquard people claim that racking completely around the machine with this technique is possible by arranging half the knitting feeds on one side of the knitting machine and the welt feeds on the opposite half of the machine. The Ordnance Gauge people make no such claim but they do point out that on a six-cut machine racked panels can be produced clear across the garment with six needles of full cardigan knitting between each racked panel.

In addition to the Wildman-Jacquard and Ordnance Gauge units just discussed, sweater knitters in the manufacture of bulky knits on a continuous strip basis also make use of another Wildman-Jacquard machine, the Model LHB, and Supreme Knitting Machine Company's Model BRW/3.

Wildman-Jacquard's LHB is not a rib machine at all but a circular links and links knitter. Actually, it is a coarse cut version of the company's well-known Model LH-6 circular purl machine. Available in three needles per inch in the superimposed cylinders, the machine offers the advantage for bulky stitch work of the wide stitch versatility of a links machine.

Supreme's bulky rib machine is the first high-speed bulky rib knitter to hit the market. It turns out continuous lengths of sweater-strips at a remarkably high rate. Although its basic stitch structures are confined to 1 x 1 and half-cardigan, it possesses extensive pattern scope through the utilization of three-position wheels operating off the dial needles.

Full-Fashioned Equipment

Whatever developments have occurred in full-fashioned knitting machinery in the past years are minor in comparison to the significant achievement of Morris Philip in perfecting a full-fashioned outerwear machine capable of knitting sweater-blanks of jersey body and rib ends on a continuous basis.

The automatic rib and jersey feature of the revolutionary Philip full-fashioned machine is achieved by dividing the spring needles equally into two separate but abutting needlebeds. These two beds, which are locked in place during the jersey knitting

cycle, operate with the full complement of needles for a given gauge. When the rib phase of the knitting cycle is reached, the back needlebed is unlocked and proceeds to move out and over the forward needlebed to execute at 270 degree flipover. When the three-quarter-circle turn is completed, the back needlebed then comes to rest on a needlebed supporting plate. As the rear needlebed is making the swing, the individual needles in this bed are swiveled by means of a reciprocating bar so that their beards will be in proper alignment in relation to the stationary vertical needles in the front bed.

Upon completion of a sweater-blank, the extra yarn employed for the separating and raveling courses is cut by means of a vertically operating cutting bar equipped with hair-cutter type shearing blades.

The machine embodies a number of features not generally found in traditional full-fashioned equipment. Among these is an automatic carrier lead adjusting mechanism. This device comes into play each time the needle bars change position or when yarn carriers are put in or out of action. It is engineered so that the five or six inch tails of the warns that have been cut will not be pulled through at the other end of the head in the initial traverse of the carrier. This is accomplished by holding the friction box until the slur cam is two inches behind the yarn carrier.

Another unusual feature of the machine is a rod feeding mechanism designed to hold intact the first widened course in the separating and raveling course sequence of the knitting cycle. Actually, the rod serves much the same purpose that a comb does in V-bed flat knitting. It operates on a sprocket chain and automatically moves vertically in and out of position in much the same way that the cutter operates.

The rods are dropped into position so that they rest on the knocking-over bits which have been specially designed to accommodate them and to ensure that under no condition will they move out of position. Holding of the rods in place is further guaranteed when the horizontal needles move in to cover and lock the rods in place and the

vertical needles rise behind and thus completely encircle them.

The take-up on the machine is capable of holding from 20 to 25 continuous lengths of sweater-blanks and would require doffing only at the end of a work shift. However, it is possible to utilize the take-up only as a drawing-off mechanism, allowing the fabric to run off into a fabric catch bin below each head.

At the present time to produce full-fashioned sweaters, it is necessary to knit the sleeve and body trims separately on slow producing V-bed flat needle machines. These rib and body trims are then topped onto transfer bars and then run-on to the needles of the full-fashioning-on operation, the machine is stopped until the required number of rib trims are run-on to the needles in each of the heads of the machine. At the completion of each sweater blank the machine is then stopped again and new rib trims run-on to the needles. There is thus considerable downtime involved, in addition to the other cost factors. A machine such as the Philip automatic rib and jersey unit, while it will operate at roughly the same speeds as present-day machines, nevertheless, thus could effectuate considerable savings in the manufacture of full-fashioned sweaters and sweater-shirts.

Full-Fashioned Questions

Despite its obvious advantages, a rib-jersey full-fashioned machine raises a number of questions. The most obvious one is: Will it replace the single needlebed full-fashioned machine? The answer to this question in turn is dependent on the answers we give to a number of other questions such as—

1. How much will the new machine cost?

2. Will the machine despite the rib automatic transfer features be as economical to run as many believe?

3. Will it do away with V-bed flat machines?

On the first point—How much will the new machine cost? If the Philip machine proves too costly, obviously there will be a reluctance on the part of manufacturers to scrap existing equipment for this more expensive piece of machinery, particularly if the machines now in

place are fully depreciated.

Anent the second factor—Will the machine despite the rib automatic transfer features be as economical to run as many believe? A British machinery manufacturer recently had raised the question that the automatic rib-jersey aspect may not be a wholly economical feature on the full-fashioned machine since it will be in operation only 10 percent or at most 15 percent of the time involved in the entire knitting cycle. This is a rather specious objection.

Regarding the third point—Will the Philip machine do away with the V-bed flat machine? The answer is no. The latch needle machines will, of course, no longer be required for the knitting of trims but these units will still be necessary for knitting of collars.

Conclusion

I have attempted in the time allotted me to highlight for you some of the more significant advances in knitted outerwear technology. In underscoring specific fibres, yarns and machines, I hope I have not created the impression that these are the sole standards. There are many others which I would have wanted to cite had I more time. In new synthetic fibres I would have liked to speculate with you on the potentials offered by such newer polymer fibres as the vinyls, polypropylenes and the polyvinyl alcohols; in knitting equipment, I would have desired to discuss the excellent V-bed flat machines that have been perfected both in this country and abroad.

My failure to do so is in no way a reflection on their value to the U. S. knitting industry. On the contrary, they are equally as important as those covered in this review and are as fundamental to the striking technical progress we have made in the past year—an achievement which is a tribute to the resourcefulness of the fiber and yarn producers; the skill and inventiveness of the knitting and other equipment builders who made the machines for converting these fibers and yarns into knitgoods; and finally the talent, efficiency and artistry which U. S. manufacturers of knitwear have displayed in utilizing the technical tools that have been made available to them.

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Canadian Textile Seminar

Engineering Knit Fabrics From Man-Made Fibers

By JAMES H. BLORE

Director, Fabric Research & Development, Fair-Tex Mills

A QUARTER of a century ago, a knitter had an excellent supply of raw materials to produce new fabrics. He could choose between carded, combed, mercerized, singles, and two-ply cotton in a wide range of counts. In wool yarns, his choice was even wider. He could choose between three spinning systems with wool qualities ranging from 50s to 70s and even blend wool with specialty fibers such as angora, mohair, vicuna and alpaca. Silk yarns could be either filament or spun. Rayon and acetate could be used alone, blended or knitted with other fibers. The combinations and permutations of fiber blend and mixture possibilities alone formed quite an impressive total with no regard to stitch and machine combinations.

Today, we have the same fiber possibilities plus a bewildering and growing array of polyamides, acrylics, modacrylics, polyesters, elastomers, metalics, and triacetates. New variations and improvements of these fibers appear to be introduced almost monthly. The fibers may be whiter, more dyeable, stronger, more pill resistant, softer, cross linked, or solution dyed; or they have been engineered to produce a specific end product such as women's hosiery or pile liner fabrics.

New types of knitting machinery have made possible the formation of new stitches. The new fibers have enabled us to produce new fabrics on old machines. New finishing techniques have added to the growing list of knitted products for apparel and industrial uses.

Starting to Develop a New Fabric

Where does one start to develop a new fabric from this vast choice of materials and equipment? These three avenues are open:

1. The customer or sales force requests a certain fabric for a specific end-use. Usually the fabric weight and the fibers are quoted. Sometimes, the cost is quoted and stitch suggested.

2. The fabric engineer can develop a fabric with the machines and yarns at his disposal and pass the fabric to the sales force hoping that a market can

be found for the new fabric.

3. He can recognize the need for a certain fabric and select the fibre, machine, stitch and construction to meet the requirements of the end product.

The latter method not only requires a wide knowledge of fiber characteristics and knitting techniques but an intimate and up-to-date knowledge of the market. Trends in fabric styles, colors, patterns and weight must be carefully watched. New fibers and new finishing techniques must be studied closely.

The value of the end product will often determine the choice of fiber. Prices of man-made fibers do not fluctuate as much as the price of natural fibers, but economies can be gained by studying fiber prices and keeping abreast of fiber price changes.

The value of merchandising aids by fiber companies, should not be overlooked. The price of one fiber might be lower than a similar competitive fiber but the second fiber might have been merchandised more strongly than the first fiber and created a stronger consumer demand. Where blends and mixtures of fibers or yarns are used, it is a good idea to select materials produced by one fiber company rather than fibers made by competitive companies to reap full advantage of any merchandising aids.

Acrylics, rayons, and acetates are now obtainable in solution-dyed colors, which cut dyeing costs and allow overdyes.

Some acrylics can be cross dyed, which saves expensive yarn dyeing and cuts dyed-yarn inventories. Polyesters, polyamides, acrylics and natural fibers can be knitted together and dyed in the piece with different dyestuffs to produce many novelty effects. Most polyamides and acrylics are made in a solution-dyed black. Yarns from these fibers can be knitted along with yarns from undyed fibers, and the resultant fabric can be overdyed to obtain heather patterns, stripes, and other effects. Acrylics can be blended with various amounts of wool or cotton and knitted into patterns. Dyeing either the acrylic or natural fiber results in many attractive fabrics.

Fiber and Fabric Characteristics

Knitted fabrics are noted for their elasticity, and man-made fibers can be used to improve this elasticity or eliminate it completely. If elasticity is required for such garments as girdles or swim suits, the new elastomers are ideal. These yarns are much finer and stronger than rubber yarns, and in certain cases they can be used without covering. Where width-wise elasticity is required, a 1 x 1 lay-in stitch should be used. Where lengthwise elasticity is needed, the elastomer should be knitted in a plain jersey stitch with a long loop.

Stretch nylon yarns will also produce good length-wise elasticity if knitted with a long enough loop. Additional width-wise elasticity can be incorporated in a stretch-yarn fabric by laying in an elastomer or by using a 1 x 1 or 2 x 2 rib stitch.

Rigidity in the widthwise direction can be controlled by employing a 1 x 1 or 3 x 1 lay-in

stitch on a jersey float-stitch base. The lay-in yarn may be of any non-stretch fiber although a high-shrink or high-bulk acrylic provides a firmer foundation. Lengthwise rigidity can be obtained with the use of high-shrink acrylic yarns using a tight stitch. A high-bulk lay-in yarn knitted on a float stitch base provides exceptional stability in both directions.

The required drape can be built into many fabrics by using the right fiber with the right stitch and the correct finishing procedures. Fabrics of man-made fibers generally lack the firm drape possessed by wool fabrics. This firm or stiff drape can be achieved by adding a percentage of wool to the blend, using coarse deniers and longer-staple man-made fibers, adding stiffening agents during finishing, or by using finishing machinery such as tenter frames with heat-setting equipment. Combinations of two or more of these techniques should overcome the limp-drape problem.

These stitches will also provide a supple drape where fine denier continuous filament yarns are employed. A medium tight stitch and suitable softeners in finishing allow jersey, rib, and plain interlock stitches to be used to construct fabrics of supple drape.

Machine washability can be obtained by using yarns of polyester, polyamide, and acrylic fibers or blends of these fibers. Blends of these fibers with more than 50 percent of natural fibers should be avoided to get best results. Polyester and polyamide fabrics should be heat set for best shrinkage results. The fabric construction must be maintained at a high quality level for good machine washability. For jersey fabrics, the cotton yarn count should equal.

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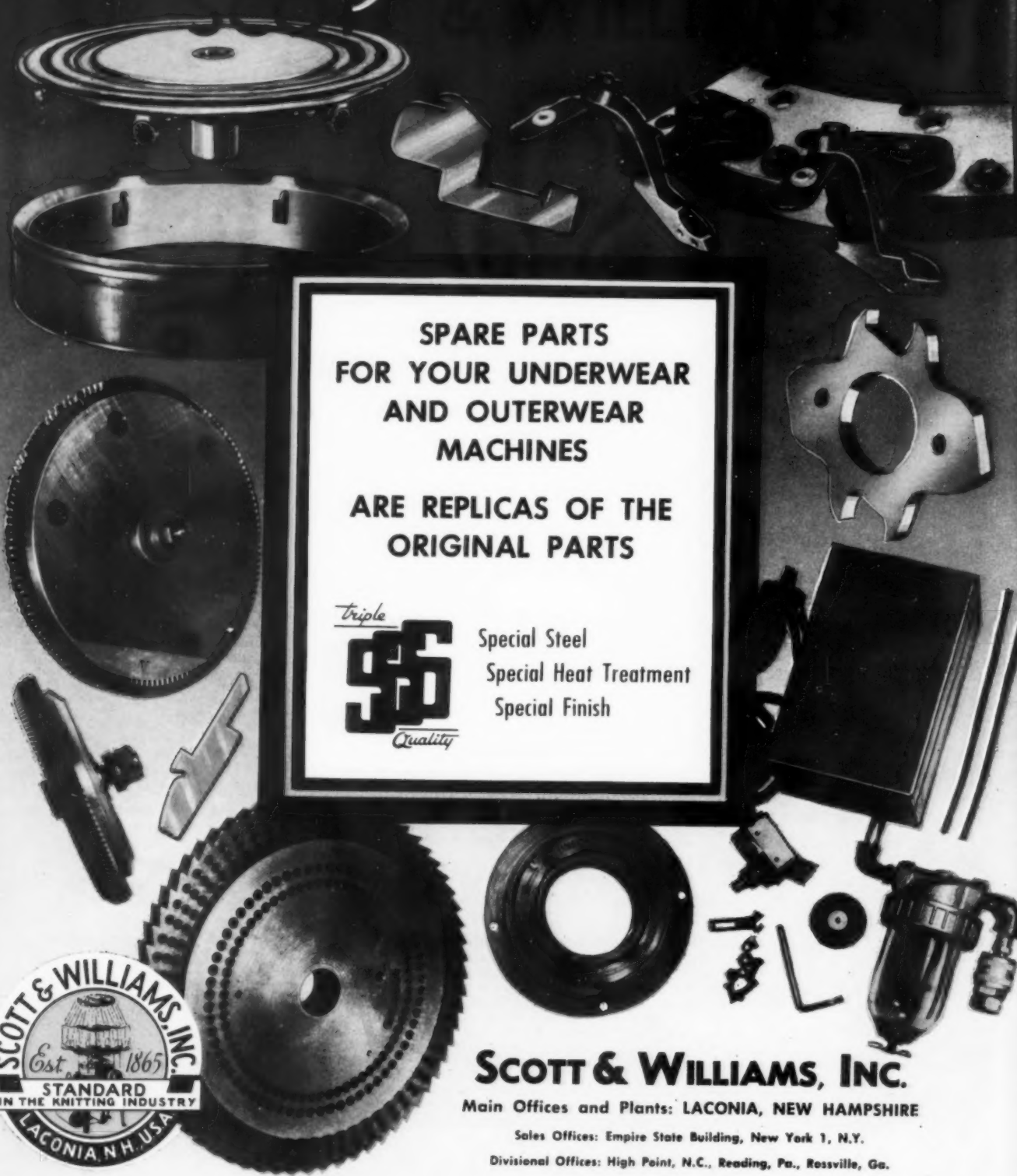
can be used.

The course-wale ratio should
(Continued on Page 15)

Text of talk delivered at Queens University Textile Seminar by Mr. Blore. He received his textile education at Nottingham University College and Leicester College of Art and Technology in England. He was employed by Meridian Ltd., hosiery and knitwear manufacturers of Nottingham for eight years. He served with the R.A.F. for six years during World War 2. Mr. Blore joined Mellor Bromley & Co., Leicester, knitting machine builders, in 1945 and came to Canada to be instructor in knitting at the Provincial Institute of Textiles at Hamilton, Ont., in 1947. He moved to Greenville, S.C., in 1952 to become Associate Editor of Textile World, and joined the Du Pont Co. six years later as a technical sales representative in the fiber development group. He joined Fair-Tex Mills, Inc., in 1959.

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be maintained at least 1.2 to 1 to get minimum shrinkage. With the correct count, the number of wales will equal 1.2 cut, so the number of courses in a 20-cut fabric should be no less than $20 \times 1.2 \times 1.2$ or 28.8.

Handle Factors

Hand can be controlled by judicious choice of fiber denier, spinning system, twist, stitch construction and finish. Acrylics will provide a softer hand than other fibers. High-bulk yarns and the use of one- and two-denier fibers will further improve the softness. Turbo yarns spun with a T.M. of 2.20 give softer results than cotton-spun yarns. Plain jersey or interlock stitch should be chosen for maximum softness, and tight

stitches should be avoided. There are a great many softeners for man-made fibers now on the market and some give better results on some fibers and fabrics than others.

Pill resistance can be built into man-made-fiber fabrics by employing fiber deniers of 4.5 and higher. Where fine counts are required high-shrinkage fibers of 2 or 3 denier can be spun with low-shrinkage coarse fibers of 6 or 10 denier so the coarse fibers form a sheath around the fine fibers and protect them. Turbo yarns with higher than normal twist should be used. Interlock stitches and other fabrics of loose construction should be avoided.

Blends of dull, semi-dull and bright fibers can be used to at-

tain the necessary opaqueness or lustre. Bright filament yarns twisted with dull spun yarns present a subdued lustre. A fine bright nylon yarn twisted with a fine acrylic yarn allows the acrylic to be knitted with greater ease; the nylon helps to protect the acrylic from pilling and it provides interesting cross-dye possibilities.

Tabulating Results

When the desired fabric has been knitted, the following data should be collected:

1. Yarn Details — fiber percentage, fiber denier, lustre, staple length, count, twist, spinner, spinning system, and whether yarn dyed, solution dyed or natural.

2. Machine — cut or gauge, diameter, number of needles, pattern-wheel slots, feeds.

3. Construction — stitch type, courses and wales per inch in the grey, courses and wales per inch finished, weight per yard, yarn-length-meter reading for feeds of varying lengths, cam settings, yarn and take-up tensions, dial height, and needle and sinker timing.

4. Finishing Procedures — method of dyeing, dyeing formulas, finishes used, finishing and dyeing machinery settings and temperatures, and calendered or tenter width. Finished weight per yard.

5. Test Results — shrinkage after laundering, pilling propensity, wash-and-wear evaluation, colour retention and drape.

Synthetic Fiber Developments

DuPont Co. Introduces New Type 28 Orlon For Knitwear

THE new Type 28 Orlon which the DuPont Company is currently making available in limited quantities to a few yarn spinners is described as a "premium product" designed primarily for blending with Orlon Sayelle bi-component fiber. In combination with this high crimp, corkscrew DuPont acrylic fiber, it produces sweaters and other knitted items embodying a slick handle. This hand is described as comparable to that achieved with mohair, though some DuPont technicians deny that the fiber is mohair-like in feel.

The slickness of Type 42 Orlon is achieved by the addition of a chemical finish to the fiber after final fiber processing. This chemical finish is claimed to have a high degree of permanence and will not wash out.

Existence of Type 28 Orlon was first disclosed in a talk delivered at the Canadian Textile Seminar held at Queen's University, Kingston, Ontario, earlier this month. (Editor's note: Text of this talk will be published in the September 26 issue).

Only In Single Denier

Type 28 Orlon is being produced in 8.5 denier and four and one-half inch staple length for processing on the various worsted systems. It is priced at \$1.50 a pound.

In chemical composition the new Type 28 Orlon is essentially the same conventional Type 42 Orlon. It differs from

the latter only in that it possesses a somewhat different degree of dye resistance, producing a tippy effect. It is this somewhat lowered dye take-up or tippiness which enables Type 28 Orlon in combination with Orlon Sayelle to produce the frosted surface that is achieved with a mohair-content yarn.

Blends with Sayelle

As compared with Type 42 Orlon, the new Type 28 version of the DuPont acrylic fiber has

a much lower crimp level.

Current work with the fiber involves blending it with Orlon Sayelle on a 25/75 percent basis. It is possible, however, that the new fiber may be blended with Type 42 Orlon or with other natural and synthetic fibers or even used in 100 percent form. No work has yet been done with the fiber in these directions.

Yarns currently being turned out of 25 percent Type 28 Orlon and 75 percent Orlon Sayelle are being produced on the American worsted system from prepared top. For the present, the new fiber combina-

tion is being used largely in coarse gauge knits. However, it is said it has possibilities for fine gauge sweaters and knitted yard-goods. In these end-products the Type 28 Orlon component tends to reduce the pilling of Orlon Sayelle.

In knitting, yarns of Type 28 Orlon mixed with Orlon Sayelle are handled in much the same manner as 100 percent Orlon Sayelle yarns. In dyeing the normal routes that are compounded for Orlon Sayelle are recommended. These largely include skein and package dyeing. However, it is understood that work is proceeding on piece dyeing methods.

See Growing Use Of New Arnel 60

The introduction of Arnel 60, the new and stronger version of Arnel triacetate fiber, will extend the use of Arnel fabrics, it was predicted by technicians of the Celanese Fibers Company, developers of the product.

In a paper presented at a meeting on September 7 of the New York Chapter of the American Association of Textile Technologists, C. S. Clutz, H. F. Elsom and R. D. Williams said the original Arnel, which was introduced in 1954, has become an "important market

fiber" and predicted further growth with the new version.

Arnel 60, a stronger fiber than the original, can be made into finer count yarns and, as a result, into lighter weight fabrics for jersey knitted goods, the technicians claimed.

"The tricot jersey outerwear of 100 percent Arnel gives a good overall fabric with durable pleatability and ease of care," the paper asserted. "Originally this fabric started as a lingerie fabric, but now over 80% of the fabrics are used in outerwear. Arnel imparts a soft hand, color versatility and provides a good fiber to the Arnel-cotton and Arnel-Orlon circular knits."

The authors said Arnel 60's fabric performance, including dimensional stability, crease and pleats retention and whiteness, is approximately the same as Arnel's, but that Arnel 60's surface characteristics are better and its tensile strength twice as much.

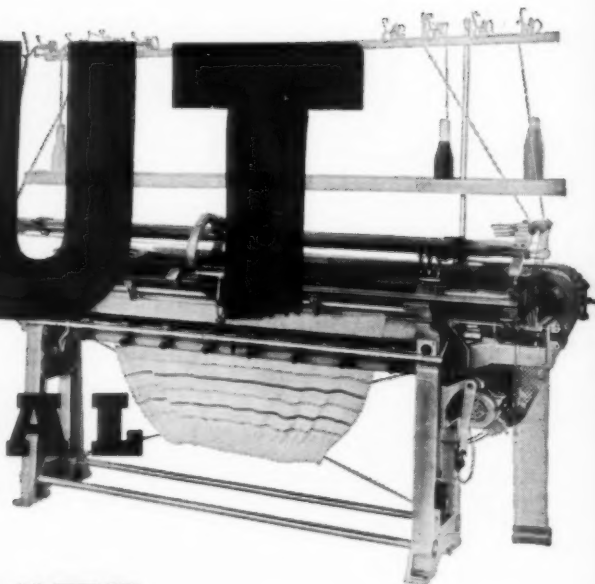
Brochure On Zantrel Polynosic Rayon Issued

A brochure on Zantrel, a polynosic rayon fiber, has been issued by Hartford Fibres Company. The brochure details Zantrel's properties and performance qualities and provides information for weavers, converters, dyers and finishers.

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Knitting Principles

Fundamentals Of Warp Knit Engineering—Part 4

By A. REISFELD
Director, Research and Development
Gehring Textiles, Inc.

IN this article we continue our examination of the factors influencing denier, cross-section and number of filaments. Mostly attention is centered below on the role of torsional rigidity and modulus of rigidity.

TORSIONAL RIGIDITY AND MODULUS OF RIGIDITY²¹ — Torsion is another fundamental concept in yarn mechanics. The simplest example of torsion is provided by the action of twisting a thread between two fingers. Torsion and twisting are synonymous.

From the knitters' point of view torsion is of great interest since most of the yarns are thrown or twisted and the loop-forming action involves a good deal of torsional strains.

As in the case of stretching and bending, all materials resist torsion. The resistance to torsion or twisting effort is described as torsional rigidity. For the purpose of discussion, reference will be made to Figure 4 show-

ing, as before, a filament of length (l) and diameter (d) clamped at one end. The free end of the filament is turned around its longitudinal axis by forces P equal in magnitude and acting in opposite direction. This may be compared to forces generated by the fingers while twisting yarn.

As the forces P commence to act on the filament, any point around its circumference suffers a displacement off its original position. Thus, a point selected at A will move under the influence of torsion to B as to describe an angle φ . This circumferential displacement continues until an equilibrium is reached between the twisting effort and torsional resistance of

the filament.

The relation between these two quantities is determined by the following equation: Twisting effort = Torsional resistance. Or in terms of filament parameters:

$$P \times d = \frac{\pi}{32} \times \frac{M}{l} \times \varphi \times d^4$$

where M is the modulus of torsional rigidity and φ the angle (in radians). The torsional rigidity of a filament is described as the twisting effort necessary to produce a displacement of a unit angle per unit length. In this case $\varphi = 1, l = 1$, hence Torsional rigidity =

$$\frac{\pi}{32} \times M \times d^4$$

since d^2 is directly proportional to cross section area (A), the equation can be written: Torsional rigidity = $M \times A^2 \times C$ where C is a constant. The modulus of torsional rigidity (M) of a given fiber serves as the

index of its inherent resistance to twisting. In general the modulus of rigidity is smaller than moduli of bending and stretch. The relative values of torsional rigidity moduli for various fibers are nylon 0.5, acetate 0.6, rayon 1.0, silk 2.5.

All the above considerations apply strictly to a homogenous filament of round cross-section. As explained in the paragraph on bending, this is rather an exception than a rule owing to irregular distribution of matter inside the filaments and the complex outline of cross section. In order to take these variables into consideration we introduce, as before, the shape factor. The last equation will, therefore, acquire a form of: Torsional rigidity = Torsional Modulus \times (Area Cross Section)² \times shape factor \times C. The value of the shape factor is computed taking that of a cir-

(Continued on Page 17)

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cular cross-section as equal to 1. Thus, for triangular cross-section the shape factor has a value of 0.75, for "dogbone" 0.6, for hollow (ring shape) 3. As in the case of bending, an increase in filament diameter (d) produces drastic increase in torsional rigidity since the latter is directly proportional to (d)⁴. By doubling the diameter the rigidity increases $2^4 = 16$ times. If denier is considered, a doubling of its size produces $2^2 = 4$ times the rigidity value.

The entire foregoing discussion applies only to monofilament materials. Although torsional behavior of monofilament is to a large extent translated into multifilament yarns, the relation between them is quite complicated. It depends on such factors like number and denier of individual filaments, twist, friction, surface morphology, etc.

By gradual twisting of cantilever mounted monofilament and plotting it against torsional resistance, a twist-torque curve is obtained which resembles the strain-stress curve for the given fiber. After inserting a certain number of turns, plastic flow occurs and the filament retains

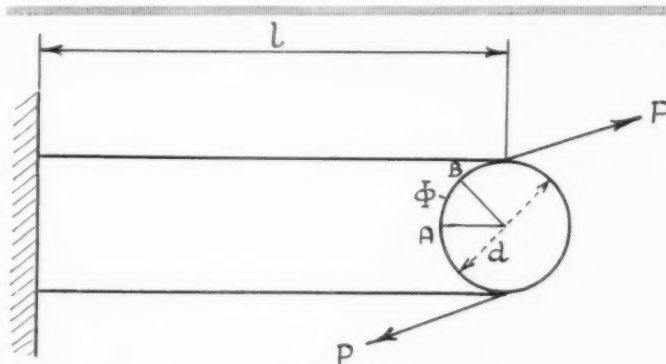


FIGURE 4

permanently some measure of twist.

Just as in the case of flexural rigidity, a small change in humidity level will cause substantial drop in the value of torsional rigidity of the yarn. The higher its regain the greater its susceptibility to changes in atmospheric moisture content.

SUMMARY—It will be seen from the discussion of strain, stress and modulus of stretch; textural rigidity and bending modulus and torsional rigidity and modulus of rigidity—the filament resists deformation and stress applied in three principal directions; viz. along its longi-

tudinal axis, vertically to the longitudinal axis and vertically to its radial axis. This is illustrated in Figure 5. The inherent resistance of the filament to deformation caused by stretch, bending or torsion is indicated by the respective moduli. Temperature and particularly relative humidity exercise a definite influence on the value of moduli. As the humidity increases, the modulus shows a marked drop in magnitude. Also presence of oil and other yarn lubricants tends to reduce

the bending and torsional moduli.

The concept of stretch, flexural and torsional rigidity is more than of academic interest to the warp knitter since the yarn on being converted into loops is subject to compound stretching, flexing and twisting strains. Knitting characteristics of yarn and behavior of the looped structure will to a large extent be determined by the mechanical properties of the material. It will be shown later how to attempt a prediction as to the knitting performance of yarn and its influence on fabric properties based on the mechanical data of the fiber.

We are now ready to resume our discussion on the influence of filament denier, cross-section and number of filaments in a yarn on the maximum denier knitable.

As shown previously, the flexural and torsional rigidity is proportional to the 4th power of yarn diameter. It is obvious, therefore, that e.g. 40 denier nylon monofilament will be far more difficult to knit than 40 denier nylon yarn counting 13 filaments, each about 3 denier
(Continued on Page 19)

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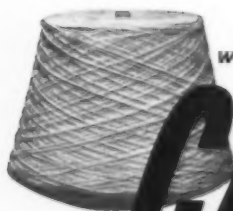
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in size. The diameter of 40 denier monofilament is much larger than that of 3 denier filament and, the first will be far more rigid than the latter. Although a multifilament strand of a certain denier does not exhibit rigidity of its individual filaments, nevertheless, it is much more pliable and flexible than monofilament of same denier. In fact, 40 denier monofilament is close to accommodation limit of a 28 gauge tricot machine. Other monofilament materials like Saran have been used in deniers up to 70.

One must bear in mind that differential in denier between two materials does not necessarily imply a corresponding differential in diameter since denier is also a function of specific gravity.

Denier, diameter and specific gravity are connected by the following equation:

$\text{Denier} = C \times S \times (\text{Diameter})^2$
where C is a constant and S—specific gravity in grams per cubic centimeter.

Thus, for a given denier, a fiber with a low specific gravity will have a larger diameter. In our case, 40 denier nylon

monofilament with a specific gravity of 1.14 has a diameter of about 75 microns (0.0030 inch) while a 70 denier Saran monofilament with a specific gravity of 1.75 has a diameter of 95 microns (0.0038 inch).²² Or for an increase of 75 percent in denier there is only a 30 percent increase in diameter. Nylon and Saran have been chosen here as examples because of their cross sections being almost perfect circles lend themselves to direct comparison. In such fibers like acetate or rayon where the cross section has an irregular outline, the diameter becomes a complex quantity.

Heavy denier monofilament materials cannot be used on 28 gauge tricot equipment because the effort required to bend the yarn into loops cannot be provided by the fine and fragile needles. Raschel machines, particularly in coarse gauges, are well suited for heavy monofilament work involving Nylon, Saran, polyethylene, polythene, etc. From the standpoint of knitting facility, the less rigid the yarn the better and hence higher the denier

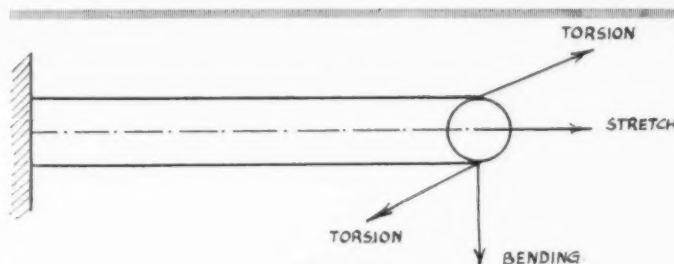


FIGURE 5

that can be accommodated on a given gauge. In order to reduce rigidity to a low value, the yarn strand is assembled from a large number of low denier filaments. The individual filaments, however, cannot be made too fine, otherwise they are liable to fracture and cause serious knitting difficulties.

For nylon the filament denier most popular in tricot knitting yarns is 3. Thus, 20 denier yarn has 7 filaments, 30 denier, 10 filaments, 40 denier, 13 filaments, etc. Many other filament deniers like 1, 2, 3, 6, 7, 10, 15, etc. are used in yarns intended to lend the fabric certain specific characteristics like luster, hand, drape, appearance, etc. The subject of filament den-

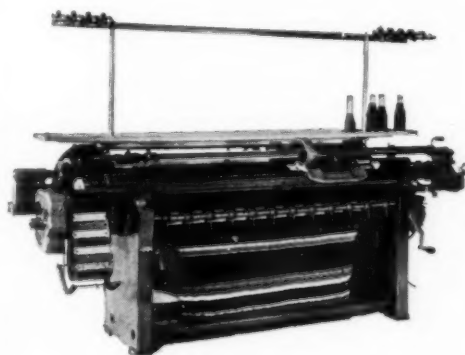
ier will be discussed in detail later on. Meanwhile, suffice it to say, the finer the filament size the greater the maximum denier of yarn knitable on given gauge machine.

To recapitulate the foregoing discussion we can put down the following rules governing the maximum denier of yarn. This denier will increase with:

1. Shorter guide bar movement or lap.
2. Lower value of stretch, flexural and torsional rigidity moduli. This takes into consideration the shape of cross section, oil content, environmental humidity and temperature.

3. Lower denier of constituent filaments.

(Continued on Page 21)



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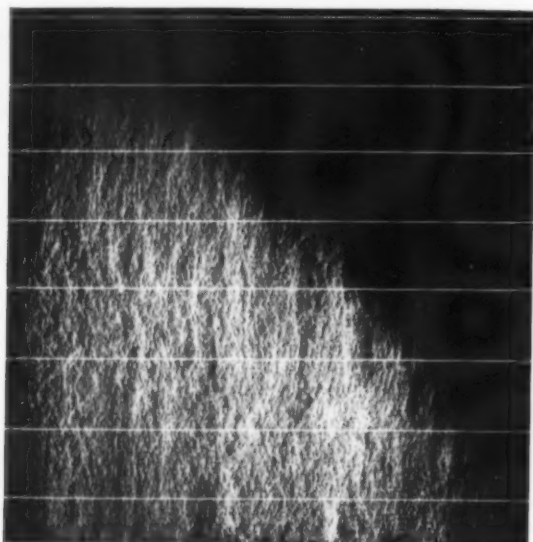
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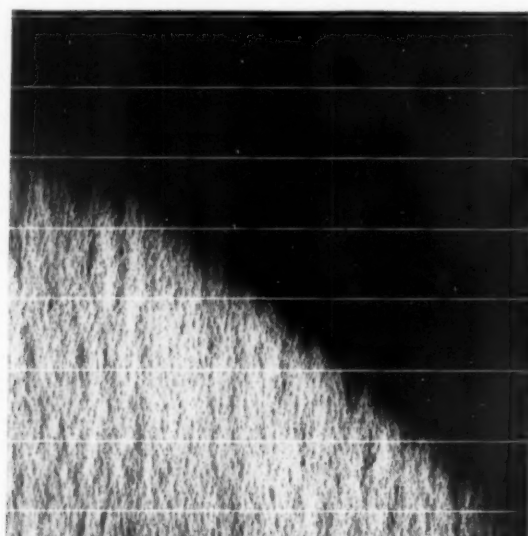
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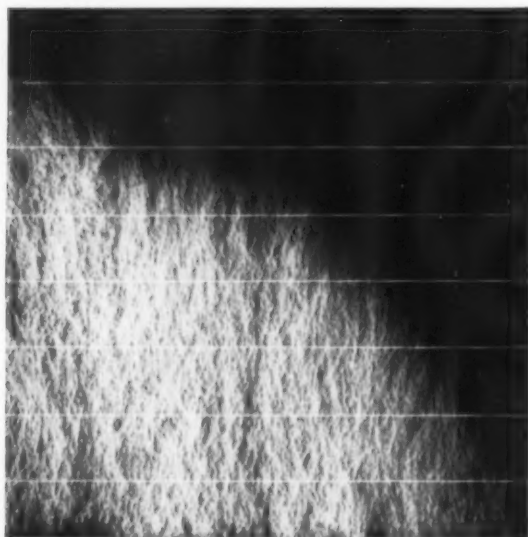
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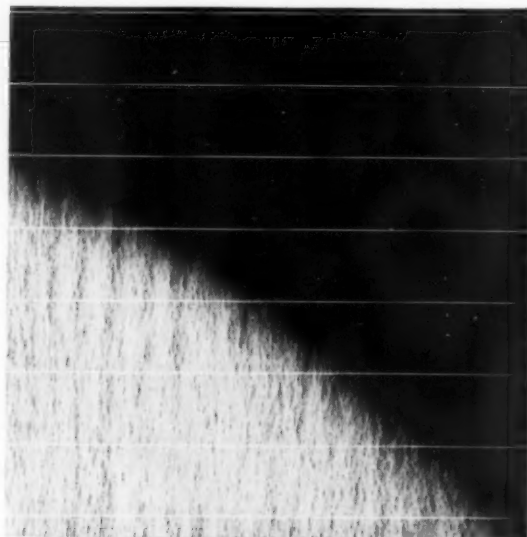
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ent filaments making up the yarn strand. Other factors like fabric construction, quality, threading, type of needle used, machine motions will also have bearing on the maximum denier. Given below is a table of maximum aggregate yarn denier of various materials knitable on 28 gauge bearded needle machine. The denier figures are valid for yarns used in conventional form only. Any bulk, slub, fancy, crepe, supported or other modified yarns would as a rule carry a much lower denier index.

The values indicated here are approximate and attainable under favorable conditions.

Acetate—600 Nylon—450
Rayon—500 Dacron—350
Laminated metallic — 1/80
inch-1/64 inch (depending on type). Cotton—20/1's. For inlay purposes the above values may be doubled and even trebled.

21. "A Textbook of Physics" by E. Grimschl, Publ. Blackie & Son Ltd. London 1946, P. 207

22. "Orlon Denier vs. Diameter", Du Pont Customer Service Bulletin No. 8-3.01, 1954

Mill News

Maurice Dampier Named By Wyner

Maurice S. Dampier has been named vice president in charge of merchandising and sales of I. A. Wyner & Co., Inc., knit goods manufacturer, in the company's first expansion move since its acquisition last month by Ames Textile Corp.

He has resigned from Ware Knitters of Ware, Mass., where he was a vice president and director since 1952.

In announcing the appointment jointly with Ames Stevens Jr., executive vice president, I. A. Wyner, president, said the firm is fortunate in obtaining a man with wide experience in fabrics, because the interest of manufacturers in a variety of knitted fabrics has grown in recent years.

Mr. Dampier has been in the knitwear business since 1946. He has sold both finished garments and fabrics.

Wyner will begin immediately to branch out into production of



MAURICE S. DAMPIER

new fabrics, including double knits, suedes, synthetics and a line of cotton-plus fabrics in the fancy field, Mr. Dampier announced.

The market for the company's Sag-no-mor worsted jerseys and its women's wear will be expanded, and a major push into men's clothing will be launched. Special fabrics will be created for men's sport coats, topcoats, rainwear, vests, trou-

sers and other items.

Mr. Dampier predicted more growth for knits resulting from the trend toward casual living, the ease of taking care of knit clothes, the growth of travel and the consequent demand for easily-packed, crease-resistant clothes, and the figure-flattering lines of jersey.

Munsingwear Declares 2-1 Split On Stocks

MINNEAPOLIS, Minn.—Stockholders of Munsingwear, Inc., voted a two-for-one split of common stock. One additional share for each share held on Sept. 9 will be distributed.

A dividend of 25 cents will be paid in December on the split stock.

Murray Feldman Named To Fair-Tex Sales Unit

Murray Feldman has been appointed head of the newly established men's wear selling division of Fair-Tex Mills, Inc., it was announced by Reuben Berman, president.

Mr. Feldman was with Allen Knitting Mills.



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Mill News

Catalina To Open New Headquarters

Formal opening ceremonies for the new Catalina operational headquarters in Los Angeles' central manufacturing district have been set for September 16, 1960.

The new International Headquarters Building provides 35,000 square feet of office space for Catalina executives, designers and office personnel. 140,000 square feet of warehouse area with specially designed equipment for stock packaging, storage and shipping is one of the outstanding features of the new installation. An enclosed patio surrounding a swimming pool, and an airy, modern cafeteria which will accommodate the 400 employees are also noteworthy.

Two sales representatives have been promoted to the position of regional sales manager.

Frank Gallagher will head a sales region with offices in Dallas, Texas; Tom Waters will make the Catalina offices in Atlanta, Georgia the headquarters

for a new sales region. Gallagher was previously Catalina's sales representative in northeast Texas and Arkansas, while Waters represented the swimwear firm in Central and Western Florida.

The appointment of Gallagher and Waters and the creation of the new sales regions increases the number of Catalina sales regions and regional managers to seven. The other five managers are Ellis Sylvester in Los Angeles, Robert Schecter in New York, Myron Benson in Boston, Paul Kay in Philadelphia, and William Shipman in Chicago.

Jantzen Promotes 3 In Expansion Move

PORTLAND, Ore.—A shifting of executives at Jantzen Inc. to meet the growing need for departmental specialization has been announced by Bruce Sturm, director of advertising and promotion.

Those promoted were:

Alvin Citron, sales promotion manager for the women's sportswear division, to advertising and sales promotion manager of the division.

Dick Andrews, assistant to Mr. Sturm, to manager of the advertising department, where he will direct development of promotion for all sportswear divisions and take charge of personnel concerned with their production.

Bill Walker, assistant advertising manager for Rose Marie Reid, to Jantzen as production manager in the sales promotion department.

Huntley And Eton In Staff Merger

Huntley Knitting Mills of Charlotte, N. C. and Eton Sales Associates of New York City have combined sales staffs, according to Baxter D. Huntley, president of Huntley.

Three-quarters of Huntley's road salesman have been absorbed into Eton, it was reported by Jack Kalish of the New York office.

The merged sales force will operate nationally from New York City headquarters. Shipments of coordinates to retailers will be from New York.

Eton is taking over Huntley's entire sales, distribution and

shipping of women's sweater and skirt coordinates except for the relationship to the chains, which Huntley will continue to handle along with its line of men's knitted shirts.

Details of the sales organization are being worked out. Eight or ten area offices are planned and the operation is to be in full swing by January or February.

Huntley's contract with Charles Frohman, its former New York agent, has expired.

Designer Visiting Europe

BOSTON, Mass.—Mary McNamara, fabric designer for Tam-O'Shanter Sportswear, Inc., of Manchester, N. H. sailed September 15 for a tour of Europe to survey fabric ideas for the fall line.

Personals

Child To Harry Millers

A daughter was born to Mr. and Mrs. Harry Miller of San Diego. Mr. Miller is a sales representative for Catalina, Inc. and the son of John Miller, a vice president of the company and also a vice president of the National Knitted Outerwear Association.

1882-1960
OLD IN EXPERIENCE
NEW IN IDEAS



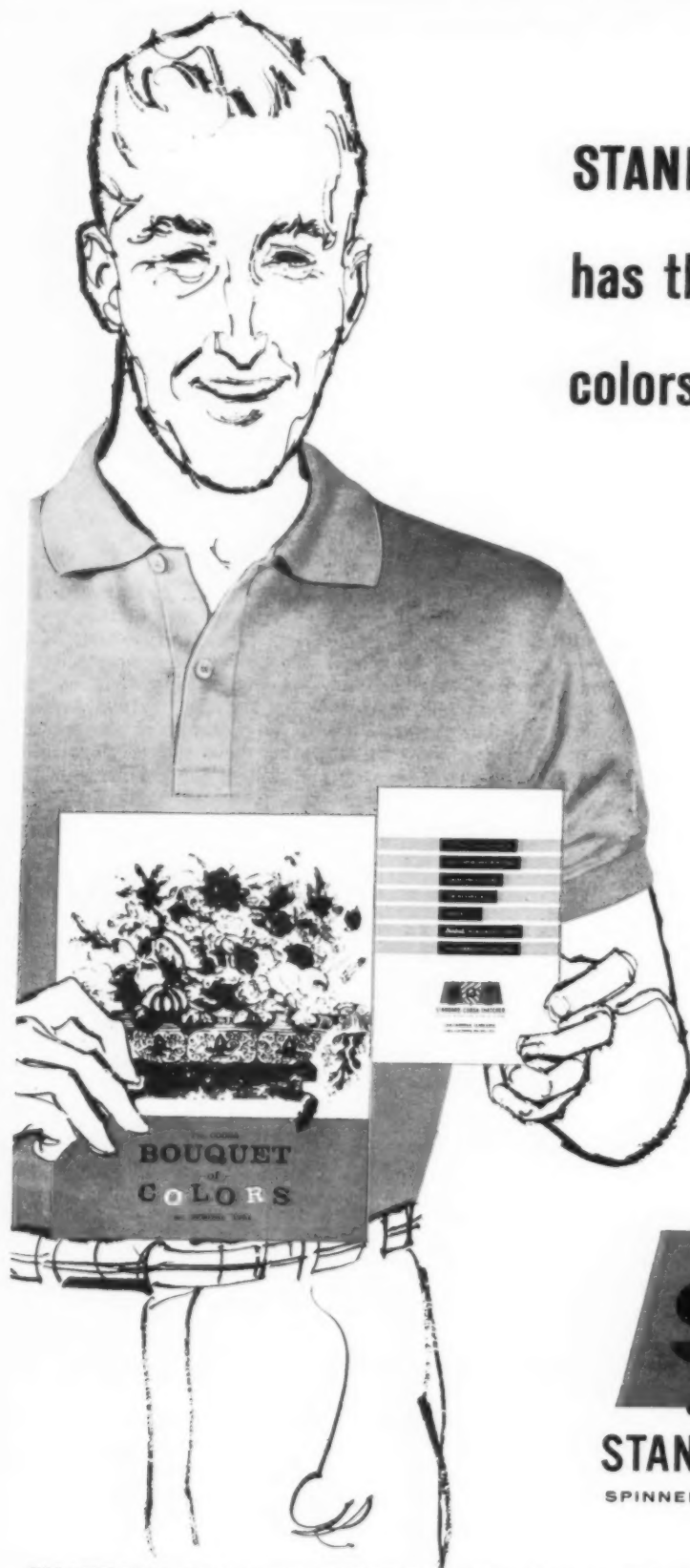
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WOOL	NYLON
WORSTED	ORLON
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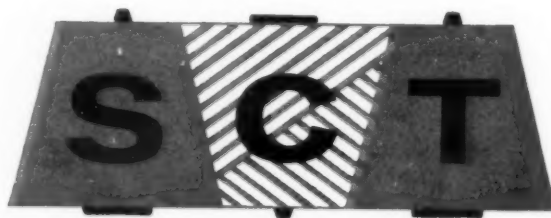
STANDARD-COOSA-THATCHER

has the quality AND the

colors for Spring-Summer '61

knitwear

Write for Standard-Coosa-Thatcher's two brochures of fashion colors in yarns... one as selected by the National Association of Men's Sportswear Buyers... the other as compiled by American Fabrics magazine. Be sure you get color-rightness COMBINED with S-C-T's absolute quality control in finest Durene® mercerized yarns and combed peeler yarns. From 10's to 120's.



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CHATTANOOGA 1, TENNESSEE • New York • Chicago • St. Louis • Philadelphia • Los Angeles • Utica
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New York
112 West
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John L.

Knit Yardgoods

Lavender High Note in Spring, Summer Fabrics

Lavender and cotton highlighted the spring and summer fabrics showing of M. Lowenstein & Sons, Inc.

The 100 percent cotton knits, which are expected to be most in demand, appeared in more than 30 yarn-dyed colors and in florals, seersucker stripes, a lacy Italian type, conversationals and geometrics.

The lavender gleamed over a range of designs and tones, including solids, stripes, rosette patterns and a checkerboard of light and dark hues.

Blends of Dacron and cotton—80/20 percent and 65/35 percent, respectively, were shown for women's and children's better dresses, sportswear and blouses.

Demand for Dacron

Harold H. Greenwald, merchandiser for the knit fabric department, said there has been a larger demand for cotton in the last 90 days than in all of



Samples of Lowenstein's knit fabrics for next spring and summer.

the last two years. "Dacron will also be very popular because Du Pont has really started to promote it for the first time," he said.

Lowenstein's Cyana finish, which the firm calls by its own trade name, Limenize, controls shrinkage. All fabrics are wash-

able.

The firm has also produced a laminated urethane base fabric following the remarkable success of this material throughout the industry. "It's the biggest thing for the coat business in years," Mr. Greenwald said.

Lowenstein's version was a

basket stitch cotton in solid colors, including oyster, white, red and again lavender.

For the showing, the firm engaged leading fashion designers to make sample women's and children's garments out of its new cottons.

(Continued on Page 27)

Strictly

Stickley

There are three things for which no man is responsible;

Of whom he was born; when he was born; where he was born.

Thus each person is relieved of any personal responsibility with respect to nationality, and thus should be created among all of us the spirit of a great common brotherhood.

Stickley services represents a high degree of responsibility.

John L. Stickley & Co.

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Pennsylvania Office:
265 Colket Lane, Wayne Pa.
MURray 8-0300

Charlotte, N. C. Office:
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Milwaukee—ask Long
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*It pays to knit
with **HIGHLAND**
Cotton Yarns...*



... for Fashion Trends begin with Quality Cotton Yarns!

BondaKnit Jacket of Abaco Fabric... a sales leader for Burstein Bros. & Goldberg

The new fabric BondaKnit, by Abaco Fabrics, is knitted Highland Cotton Yarn bonded to ScottFoam. Provides warmth without weight, retains its shape permanently. This delightfully fashionable new sweater-jacket with wide, stylish collar is available in popular fall colors.

Leading knitters have long recognized that Highland's superior quality is based on a scientific multi-blending process. Implemented by modern equipment, this painstaking process guards quality during every

step of the way from bale-blending to spinning and dyeing. The result? Uniformly clean, soft yarn that lowers knitting costs and increases the sales value of your knitted goods.

*Investigate Highland knitting yarns—carded or combed clean white or **died in the colors of your choice** at our Cloverdale plant.*

Try Highland yarn and *see* why it is the yarn for you!

Highland



CARDED AND COMBED, 10s TO 30s, CLEAN WHITE OR DYED

Superior Cotton Yarns

Since 1913

HIGHLAND COTTON MILLS, INC. • HIGH POINT, NORTH CAROLINA

Sales Representatives: Wm. H. Cramin, Jr., 437 Fifth Avenue, NEW YORK, N. Y. • Cosby & Thomas, CHARLOTTE, N. C. and CHATTANOOGA, TENN. • J. M. McGinnes, READING, PA. • C. W. Seidel, 222 West Adams Street, CHICAGO

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On display were a two-piece lounging set, slacks and blouse in autumn leaf; a striped two-piece jumper afternoon dress with a modified cowl; a black and white plaid two piece suit; a heavy ribbed waffle stripe dress in gold and white with a button front, and, for girls, a corduroy cotton skirt in solid blue under a blue cropped blazer, and, for casual wear, sulphur style corduroys.

Mauve Shades

Almost all the samples also were shown in lavender.

In swimwear, Lowenstein's presented 22 patterns, each in six color combinations, led by red, green, blue, turquoise and lavender. Raised effects are stressed in the simulated "persian lamb" in pale colors and two tones, black and gold, and the chenille velvet, both retailing from \$14 to \$18.75.

Orlon and elastic, three to one, are blended in the higher priced swimwear fabrics; Orlon, elastic and cotton, 50-20-30 percent, respectively, in the medium priced, and 85 percent cotton and 15 percent elastic in the popular prices.

Swimwear

Accent On Youth In Jantzen's New 1961 Collection

PORTLAND, Ore.—Youthful styling will be a major interest of Jantzen, Inc., in planning and designing its swimwear line for women, as a result of studies conducted by the company in order to define and pinpoint Jantzen's markets in each of its divisions. The results of this thinking are exemplified in the company's new 1961 styles, Mayer Monroe, vice president in charge of style development, told sales representatives at Jantzen's sales convention early this month.

Results of the studies show that the primary market for the women's division is among "active, fashion-conscious young women between the ages of 15 and 35 who are seeking a young but sophisticated look." They are also seeking quality merchandise, with a styling which is acceptable to their associates, he said. It is toward these women that Jantzen has deter-

mined that its advertising, marketing and merchandising should be directed.

Research has indicated that 72 percent of the women's swimsuit market is in the age group from 15 to 25, while an additional 22 percent is in the 25-to-35 age bracket. The combination of these two groups accounts for 94 percent of the entire women's swimsuit market, Monroe said. This leaves a secondary market of six percent; namely, women over 35.

Looking again at the major market—the young 94 percent—Jantzen finds that this market can be subdivided into three slightly overlapping groups. The college group can be bounded approximately by ages 16 to 22; this group appreciates "exclusivity" in place of the high school group's desire for "similarity." Objective of the third group—the young working woman and the young housewife—is described as "selectivity."

Age divisions and percentages vary somewhat according to the product, Mr. Monroe observed, and will, for instance, differ in the case of sweaters and sun clothes. Jantzen, in its planning

and designing, is now arriving at complete specialization of assignments; members of merchandising personnel, too, are concentrating on their respective specialties. Overlapping is to be completely avoided.

Mr. Monroe also announced that, because of its enlarged scope in the present and future, the former Style Development Department has been renamed and from now on will be known as the Designing and Merchandising Department.

Monroe described the week-long sales convention as the "Jantzen Convention of Champions," with "Champions of Fashion" as its theme. He advised sales representatives, assembled to view the new women's swimwear and sun clothes lines, to be fully acquainted not only with their merchandise but with the subject of fashion itself. This, he said, ensures the buyer's faith in the line.

"She will welcome your guidance, but you must know what is going on in your fashion world," he admonished. "If she has confidence in your fashion, she will have confidence in your line."

"SPECIAL WHITES" on WORSTED?

ALL of our WHITES are "Special Whites"

Our wools are chosen for their clean, bright color and their relative freedom from annoying dark hairs.

You can have these yarns with or without sulphur at NO ADDITIONAL COST over ordinary bleached yarns.

Available for immediate delivery in 2/15, 2/18, 2/20 — "Sevenstock"

"SPUNRITE TO KNITRITE"

DAVIS YARN CO., INC.

370 Hart Street, Brooklyn 6, N. Y.

GLenmore 5-1600

When you think of knitting yarn, think of DAVIS YARN.
A Leading Supplier for Over 40 Years.

If It's
Made From



**TURBO-
ORLON**

It's Made
From the



No. 1
**SWEATER
YARN**



RESULT?

Yarn spun from Turbo-Orlon produces a variety of knitted garments

- BULKY
- INTERLOCKED
- JERSEY
- FULL-FASHIONED

with scientifically controlled shrinkage during final finishing. Whatever the characteristics required Turbo-Orlon can provide the answer.



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HERE'S WHY:

In the Turbo process fibers of famous DuPont Orlon® are s-t-r-e-t-c-h-e-d and b/r/o/k/e/n into variable lengths. Some fibers are then relaxed in a special steam process before blending with stretched but unrelaxed fibers . . . to produce a High Bulk yarn of superior loft and hand.

LOOK **BETTER** IN A SWEATER

TURBO-ORLON

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Contact a licensed Turbo mill . . . over 50 in United States and Canada

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Trade Promotions

Miami Co-Ed Becomes College Queen In Contest Sponsored by Foundation

Carole Reinhart, 18, of Miami, Fla. became the image of America's school girls in the sixth annual National College Queen contest held Saturday, September 10 at the Hotel St. Moritz. The Knitted Outerwear Foundation was sole sponsor for the first time this year. The Foundation is the promotional affiliate of the National Knitted Outerwear Association.

Miss Reinhart is a sophomore at the University of Miami. Second place honors went to Patricia Merrill, 20, of Little Silver, N. J., who is a junior at Hood College in Frederick, Md. Judy MacGuire, 18, of Freeport, N. Y. was in third place. Miss MacGuire is a sophomore at Vassar College.

The Queen will receive a grand tour of Europe and a wardrobe of knitted apparel from the Foundation. She will also be the recipient of a scholarship at the Institute of Crea-

tive Communications in New York City and a scholarship for free study at the Dramatic Workshop in New York under the tutelage of Dr. Saul Colin. A swim suit and sportswear collection designed by Par-Form Originals will be presented to her.

Judges included Edward A. Brandwein, administrative secretary of the National Knitted Outerwear Association, Russell Patterson, the illustrator, Russelle Patterson, his daughter, a former fashion model, Frank Farrell of the New York World Telegram and Sun; Dr. Michael Browne of the Institute for Creative Communications, Joe Kaliff, president of the Caricaturists Society of America, and Yvette Schumer, Broadway producer.

Contestants have been presented to the public since March. Entrants have posed in sweaters and swim suits.



Edward A. Brandwein, administrative secretary of the National Knitted Outerwear Association, crowns Carole Reinhart, 18, of Miami, National College Queen. Looking on are runners up Patricia Merrill, 20, of Little Silver, N. J., left, and Judy MacGuire, 18, of Freeport, N. Y.

Aids Knitter USO Drive

R. R. Volz, vice-president of the Coats & Clark Sales Corporation, has been appointed

chairman of the knitgoods and yarns division of the 1960 Greater New York USO fund-raising campaign.

Dyes And Chemicals

Frank Perutz, Lana Head Talks On Screen Printing

ROCHELLE PARK, N. J.—Frank Perutz, consulting engineer for the Reggiani Company of Italy, lectured on "Automatic Screen Printing" at the first fall meeting of the American Association of Textile Chemists and Colorists, Metropolitan section, held at Kohler's Swiss Chalet.

Cation-Active Softener Issued By Crest Chemical

NEWARK, N. J.—A new development in the field of cation-active softeners, Velvcrest L, has been announced by the Crest Chemical Corporation here.

It is a snow-white stable liquid emulsion which is chemically a new type stearic acid amine compound in pure state.

Adelaide Mills

Anniston, Alabama

Our 60th Year

Spinners and Dyers of Fine Quality Yarns

Take it from Big League Knitters Score more sales with 2 Big Hitters

TRIM
YARNS

for cuffs, collars, foam backed fabrics, bottoms and trimming items of all descriptions.

PEDIGREE

for fine jersey fabrics, bathing suit fabrics, outerwear fabrics of all types.



Trim Yarns and Pedigree Yarns are spun of the same exceptionally fine cotton—slow carded and spun in our plant.

The latest type of spinning frames in the industry produce yarns in demand by the most discriminating knitters. Yarns are dyed in our plant by skilled technicians on the finest stainless steel equipment with electronic filters.

Available in Bleach, Direct, Sulphur, Developed, Vat and Naphtol colors.

Represented by **BRANT YARNS, Inc.** 1412 Broadway, New York 18 LOnacre 5-3350

Ban-Lon®

knitwear gives you
4 profit pluses
 for better selling...
 customer satisfaction



the test is in the touch



FOR YOUR PROTECTION
 Fabrics and garments which carry these trademarks
 must pass rigid quality and performance tests.

For further
 information, contact
 your source
 of supply or write
 "Everglaze"
 Marketing Division,
 P. O. Box 189,
 Wilmington 99,
 Delaware.

Quality Control Program

For your protection, all fabrics and garments which carry the famous "Ban-Lon" trademark must undergo and pass rigid tests for quality and performance

Skilled Technical Staff

Technical help from the Bancroft Company and its licensees is readily available to give you assistance and advice in carrying out your "Ban-Lon" program

Nation-Wide Marketing Program

Trained marketing personnel visit stores throughout the country regularly to acquaint merchandise managers, buyers, and sales personnel with the unique advantages of "Ban-Lon" fabrics and fashions, as well as with the latest developments

Unique "Ban-Lon" Properties

The permanent crimp in the "Textralized" yarn assures:

- soft, luxurious hand
- excellent stability
- resistance to pilling, wrinkling
- remarkable absorbency
- sharp, bright colors
- added bulk with less weight

The permanent crimp in the yarn puts the plan in Ban-Lon fabrics and garments

Retail

Ohio Stage

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Retail Notes

Ohio Store, Jantzen Stage Fashion Show

TOLEDO, O. — B.R. Baker Co. and Jantzen, Inc. staged a fashion show at Baker's Colony branch. Miss Olive McClaughlin, Jantzen fashion coordinator, was the commentator.

Women's sportswear was featured but men's and boys' wear were also shown.

Among the women's items were a rollaway collar sweater of fluffed mohair, in cherry, green, china tea or grey heather; a two-way collar pullover of mohair, in black or grey heather; a wool-mohair pullover of Irish design in white, charcoal or blue; a cardigan with jacquard crew neck, in green and Vienna tones, and an Orlon pullover in red, green, blue or white.

Scranton Store Features New Junior Knit Styles

SCRANTON, Pa. — New wool knits by Marie Phillips were presented in the Coronet Junior Shop of The Globe during a fall promotion aimed at

junior figure types, including college and career girls.

The standout styles in the collection were a double breasted jacket combined with a slim skirt and wide notched collar with contrast trim, a wool knit sheath with a basic neckline and a three quarter length sleeve, and a hip length overblouse with a deep V neck, stand-up collar, hip pocket effects, self belt and its own matching slim skirt.

Layaway Plan Boosts Fall Knitwear Sales

WATERTOWN, N. Y. — The Globe department store here is using layaway selling to spark fall business in knitwear fashions, including sweaters and dresses.

At this time of the year, women are not particularly interested in warm knits but they are anxious to lay away items from complete selections for wearing in cooler weather. The store features a plan of 10 percent down, 10 weeks to pay and free cold storage on all wool layaways.

A large collection of Talbott sweaters in autumn colors is (Continued on Page 33)

Now Spinning . . . for Prompt Delivery

TURBO ORLON® ACRYLIC MARL

ALL COLORS . . . ON CONES.

Delaine WORSTED MILLS, INC.

GASTONIA, N. C.

- COLLARS
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Satisfaction Guaranteed



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Westmoreland & Collins Street
Phila. 34, Pa. GARfield 3-0376



There's so much that's new in the knitting field these days that it's understandable that you might be plagued with technical problems concerning dyeing, colors, "handle," etc.

We'd like to show you how you can be relieved of these problems—by entrusting your dyeing work to COLOR-KNIT . . . a group of technical experts dedicated to doing the best possible piece dyeing job in the knitted outerwear industry.

Try us . . . you'll be glad you did!
Quality Piece Dyers of

Orlon®, Ban-Lon®, Other Textured Nylons,
All Synthetics and Blends

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"The Dyers With Technical Know How"

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1961 EDITION...

Our 16th Annual...

COMING... JANUARY 10th

THE FIRST . . . AND STILL THE ONLY
"VOICE OF SWIMWEAR AUTHORITY!"

Published As A Specialized Information
Service For Swimwear
Buyers & Merchandisers

A PRIME ADVERTISING MEDIUM FOR
SWIMWEAR GARMENT PRODUCERS,
WOVEN AND KNIT FABRIC MFRS.
AND BEACHWEAR SUPPLIERS

"SM" IS READ BY SWIMWEAR PEOPLE ONLY... NO WASTE CIRCULATION!

Over the years, we've built up the very best list of retail swimwear buyers—in the country's major dept., specialty and chain stores—a scrupulously controlled distribution of 5,000—who sell over \$75,000,000 worth of swimwear.

"SM" IS EDITED FOR SWIMWEAR PEOPLE ONLY... THEY RELY ON IT!

The major editorial emphasis of "SM" is on Sales Training... it contains what buyers want—a storehouse of information on styling, fabrics, fitting techniques, suggestive selling, handling adjustments, reducing swimwear returns, etc

"SM" IS THEMED TO HELP SWIMWEAR PEOPLE SELL MORE SWIMWEAR!

It stresses the importance of early and adequate swimwear buying... it presents the folly of premature closeouts... it suggests proven techniques for dominant swim suit promotion, display and merchandising.

"SM" IS CONCEIVED AS AN ADVERTISING MEDIUM FOR SWIMWEAR ONLY!

Because "SM" is published exclusively for swimwear buyers, it accepts advertising only if it is slanted to these buyers. Because "SM" is kept and used—for at least a full season—your advertising is assured of year-round visibility.

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1 Page	\$250	Color — \$60.00 additional for standard red or blue.
2 Pages	465	
4 Pages	900	
2nd & 3rd Cover	365	Matched Color — \$75.00
(includes bleed and standard red or blue)		
4th Cover	495	Bleed page — \$25.00 extra
(includes bleed and standard red or blue)		
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Space Unit	Width	Depth	Trim size of book—8" x 8 3/4"
1 Page	5"	7 1/2"	Plates for bleed pages—8 1/4" x 9"
Double Spread	5 1/4"	7 1/2"	Halftones — 110 screen. All plates to be blocked.
(each page)			
or	7 1/2"	11"	
(plate cut in middle)			

PUBLICATION INFORMATION

Issuance date: January 10, 1961
Deadline Space reservations—Dec. 8, 1960
For Plates—December 14, 1960

**NATIONAL KNITTED
OUTERWEAR ASSOCIATION**
(Swimwear Division)

386 Park Ave. So., New York 16, N. Y.

featured, including a wool and mohair and fur blends, in bulky and smooth styling. In the fashion dresses section, the store is promoting knit dresses of wool in suit types, two piece styles, three piece wardrobes and one piece styles.

Buffalo Store Selling Back-to-School Wear

BUFFALO, N. Y.—Sweaters for back-to-school wear, \$5.98-\$7.98, are in demand at the Youth Center of The William Hengerer Co.

The emphasis is on the bulky with new necklines and colors. The best sellers are:

- Little girl's cardigan in pattern-ribbed Orlon in stone blue, stone green or white.

- Little boy's shawl collared cardigan with leather buttons in stone blue, stone green, white or gold Orlon.

- Turtlenecked, raglan-sleeved, pattern knit Orlon pull-over in curry or stone green for girls.

- Girl's Scandinavian style boat-neck pullover in beige or grey striped in color with push up sleeves, in Orlon.

Style Show Features Sweaters For Coeds

SYRACUSE, N. Y.—Sweaters were plentiful at E. W. Edwards & Son's back-to-school "Look of Knowledge" fashion show in the Hotel Syracuse ballroom before some 800 co-eds.

Receiving special applause were Pandora's cranberry red turtleneck with matching color slim skirt; a misty blue cardigan with pleated skirt; a bulky novelty stripe with box pleated oxford skirt, and a Remark brush wool novelty turtleneck tunic sweater with drawstring, worn with a stone green hip-stitch skirt.

Brushed wool stripes, bulky boat necks, woolen mohair cardigans and multi-colored striped pullovers featured in the August and September issues of Seventeen Magazine, co-sponsors of the show, were displayed. A blue and red Scandinavian sweater with matching hat by Alice Kaye; a blue bulky boat neck by Scot Mates with an imported Canadian reversible pleated skirt, and a Scot Mates brushed wool cowl neck in brass with black trim were also shown.

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LAURENS

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Be sure to see BONIN's fur and angora blends — also 100% cashmere.

BONIN now produces large quantities of garnetted lamb's wool and Orlon — and you can be sure that these yarns also are up to their High Standards of Excellence. BONIN offers a complete line of woolen system knitting yarns

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DYEING

- Piece dyeing of Knitted Fabrics
- 500 lb. kettle lots
- Latest stainless steel equipment and controls
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FINISHING

• NAPPING & SHEARING

with the newest type equipment ON OUR OWN PREMISES. Finished widths to 82"

PROCESSING

an exclusive washing process devoted to bring out the finest obtainable handle in all fibers and blends with the minimum oil content.

Quality plus service

• When you specify "City-Wide" you are assured that experienced experts process every garment with the most advanced methods in a new, modern plant.

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City-Wide

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Knitwear Abroad

Scottish Mills Find Industry More Competitive

GLASGOW, Scotland (Via Scottish Amalgamated Trade News Agency)—Comment that the knitwear business is becoming increasingly competitive, is something which most knitwear men will accept. It is an indication of the present trend in Scotland, towards massive production and large scale buying; the advent of the big battalions means, inevitably, the advent of the methods applying in big business. This is, of course, not a new phase. The Scottish industry, originally concentrated in given areas and operated as small family firms, has grown immensely to multi-factory operation, with every indication that the trend will continue. That growth has meant adoption of the policies and practices applying in such massive undertakings with a fair degree of elimination of the more intimate sort of contact which previously applied in the knitwear business in Scotland.

New Problems

The trend poses a wide range of problems which are beginning to show. The first and obvious question is whether the industry is reaching saturation point. The fact that business is becoming more competitive every year is an indication that the output is there and that the

business has got to be found to feed the output; and that it is increasingly difficult to find the business at the right price and at the right time.

The second point which emerges from large scale operation is the cumbersomeness of its operation and the loss of personal and intimate contact which means quite a lot with many buyers. This is reflected in the attitude of some of the smaller merchant houses; they see no danger in the growth of the big houses but rather a benefit to themselves. The bigger the groups grow the greater the distance from the ultimate buyer who turns in the end to the smaller house for the special attention which the little firm is prepared to give. This is, of course, an oversimplification of the situation but it has some germ of truth. Growth is good but it could become so speedy and extensive that the machine loses sight of the ultimate customer for whom the whole operation was intended.

Specialty Lines

There is also the question of specials. This trade is admittedly not one which is enjoyed but it is reasonably profitable if the buyer has a steady turnover of the special lines which he wants. By turning out these special designs, lines which the bigger firms either cannot or will not do, the smaller houses are finding themselves increasingly well placed.

The position now developing in Scotland would seem to be

(Continued on Next Page)

BUTTONS

A complete selection of
sew-thru and shank buttons
in plain and textured polyesters.

Also

Plastics, acrylics, metals and pearls.

Perfect color matching.

One day service.

Call or write for samples.

New York Washable Button Corp.

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LExington 2-6088

very roughly this: that the trade is as a whole progressive since only the fit are surviving; that the trend is either towards large integrated units doing a wide range of mass production lines of excellent quality, selling on a massive scale, perhaps through the national chains. In this field competition is obviously keen and likely to become keener.

The small firms are tending to become specialists, efficient specialists who are prepared to listen to the smaller buyers who want this or that done in a different way — and who are prepared to pay for it. Therein lies the crux of the specialist position. It is true that competition is keen here as in other fields, but generally speaking it is possible for the specialist to get the extra money for the extra something which the buyer wants and which the merchant or mill is prepared to provide, just as the buyer wants it.

The position might alternatively be regarded as a question of offering the customer what the maker has, and asking the customer what he or she wants. That again is an oversimplification, but it is broadly true. The bigger groups must plan so far ahead and coordinate so fully that their range must be basic, appeal generally, and have a margin of safety in design, price and coloring; the range is then offered and the business taken. The smaller firms also make up samples but are much more prepared to accept variations and to fit into the customer's patterns than asking him to fit into the mill pattern. Always, of course, if the customer pays the premium, and according to such firms, at present buyers are prepared to pay for the design and styles they really want.

Increased Efficiency

How long this situation will continue remains to be seen. Returning to the starting point, the fact that business is becoming increasingly competitive must result in further efforts to increase efficiency, increase outputs and improve selling organizations. Business must be found not only against competing knitwear but against all the wider range of consumer goods which are fighting for the spending money. All of which suggests that the 1961 season is not going to be easy,

what with expanded outputs coming on the market and new plants going into production. Meanwhile, however, the order books are well filled and despite the toughness of the selling position, most of the larger and smaller plants are very satisfied with their position and are actually still planning for further expansion.

Some of this is designed to give increased efficiency and is in line with the comment already made that competition will demand increased efficiency. In most cases the trend has been to integrate more fully so as to cut out all unnecessary or double handling and to bring production as far as possible under one roof.

New Core Crimpers In Operation Abroad

MANCHESTER, England — All four Ban-Lon licensees in Britain have installed the new core crimper units which have been developed by Joseph Bancroft & Sons Co. The companies concerned are Brocklehurst-Whiston Amalgamated Ltd., English Sewing Cotton Co., Ltd., Carrington & Dewhurst Ltd., and British Depa Crepes Ltd. The core crimpers have been imported from the U. S.

The main advantage of their unit is that they make possible the production of the Ban-Lon processed yarns on put-ups suitable for yarn dyeing.

In the past Ban-Lon garments have had to be piece dyed after manufacture. The production of the bulked yarns into suitable packages means that the yarn can be dyed and used to produce garments of varying color. A spokesman in Britain says that although plain colors are likely to remain top sellers in the field of conventional knitted outerwear, the availability of dyed yarn will expand the use of Ban-Lon in the sportswear and swimwear field.

It is also said that increased loft of yarn can be produced on the core crimper if desired, making the yarn ideal for the bulky knit garment currently popular in Britain.

* * *

Core crimpers are currently being installed here in the states by leading processors of texturized nylon and other filament yarns.

THE "RELIABLE FELLOW" SAYS:

REMEMBER TO CALL RELIABLE

40/3 Sewing Thread...
Nylon Sewing Thread...
Nylon Separating Thread...
Dacron Separating Thread...
Soft & Merc. Ktg. Cotton...
Kismet—Seam Binding...
Pintickets—Labels—Tags...
Elastic—Cleaning Fluid...
Paper—Twine—Wax...
Pressing & Cutting Supplies...

330-32 Bleecker St., B'klyn 37, N. Y. GLENMORE 6-4434-4435

INTERSTATE

yarn mills, inc.

5725 HUDSON BOULEVARD

NORTH BERGEN, N. J.

N. Y. Phone: LO 4-3707

N. J. Phone: UN 5-3116

FOR SPOT DELIVERY

Our Fabulous 2/20 Seven Stock

This fine French Spun Yarn is the "talk of the market"

Limited Quantity of Our Magnificent 2/20 Six Denier Orlon® Acrylic
cones or skeins

The IRVING COHEN YARN CORP.

French, Bradford and American Spun Yarns
IT COSTS LESS TO USE THE BEST

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Factoring
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Jacobs & Robson Co., Inc.

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Murray Hill 6-9160

**Dyed & Natural
COTTON YARNS
SYNTHETICS
NOVELTY YARNS**

**Sales Agents For:
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SPECIALTY
*woolen
yarns*

WINCHESTER
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ALPACA

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ANGORA, CAMEL'S HAIR, CASHMERE, LAMBS WOOL, MOHAIR

Specialists in Quality Woolen Yarns for more than 75 years

FOR SAMPLES AND QUOTATIONS

NEW YORK: HUGGINS-CLELLAND, INC., 1440 Broadway, Bryant 9-8752

PHILADELPHIA: FRANK L. DURR, 1207 Western Savings Fund Bldg.,

Kingsley 6-4855

PROVIDENCE: RAYMOND J. WALSH, 22 Edison Ave., GAspee 1-6694

CHARLOTTE: COLLINGWOOD, IBACH & CO., 205 S. Church St., EDison 2-1428

TENNESSEE: JOSEPH S. PERSINGER, Lookout Mountain, Taylor 1-2170

CHICAGO: GEORGE W. VENESS, 222 West Adams St., STate 2-8962

Ladies' and Misses'

Bold And Bulky Sweaters Featured In Phila. Back To School Displays

PHILADELPHIA, Pa.—Sweaters hold the spotlight in fall and back-to-school window displays at all the department and specialty shops here. The big, bold, brushed and bulky look predominates in all categories—pre-teens, teens, girls, boys, and for the college or career set.

Gold, olive green, camel and fashion's newest favorite, the plum and wine colors, are featured all over town.

Jacquard patterns, intarsia patterns, knitted diamond motifs, and either horizontal or vertical stripes in bold contrasting colors are being shown in the window and department displays.

New Necklines

Everywhere, neckline treatments emphasize collars and more collars of every size and description. In most cases, it looks like the bigger the collar the better is the order of the day, whether it be cowl, shawl, or modified turtle necks. Where collarless styles are being shown, they are mostly rib trimmed bent or lapped over boat necks or high V-necks.

Judging from what buyers have chosen to display to spur sales, the bulky, casual look is expected to go over big for another season. Traditionally men's high styling in sweaters may have picked its cue from the feminine style trends but the reverse is certainly true this year. All the bulky, bold look, the neckline styling, and even the choice of colors of sweaters being shown here for the teenage and college set repeat the trends established in most recent past seasons for men.

Wool Comeback

Everywhere, indications are that wool is making a tremendous comeback this season. Wool holds a dominant place in win-

(Continued on Next Page)



**highest prices
paid FOR YOUR sweater
waste**
SKLAR
EVERY FIBER
EVERY GRADE
NO MINIMUM
TEXTILE
WASTE
CORP.

47 Rodney St., B'klyn 11, N. Y. ULster 2-4488

24 Hour Service Within 100 Miles of N.Y.C.
We Do Business Throughout the World

SPECIALIZING IN

**KNITTED LININGS for SWIM
TRUNKS and BATHING SUITS**

- Celanese
- All Types of Cotton Mesh
- Novelty Cloth

ROSECLAIRE Knitting Mills, Inc.

762 Wythe Ave., Brooklyn, N. Y.

ULster 3-4346

low and department displays in all categories, either in 100 percent wool or in combinations with mohair or with Orlon. Buyers say interest has been excellent as the selling season gets underway.

Buyers report they also are doing a good business with Orlon acrylic fiber bulky knits, particularly in the more highly styled fashions featuring knitting intricacies such as cowl necklines.

Orlon Shags Popular

Very prominently displayed in window and departments are the new silky-look Orlon shags, which buyers say are drawing a tremendous share of back-to-school interest, particularly with the college set.

Snellenburgs department store devoted 10 main Market street windows to back-to-school displays under the theme "For Campus or Career Girl" and such sub-titles as "Seeking a Fashion Degree" "Major Course for Fall" in which sweaters teamed up with skirts, slacks were featured. Included were a bulky knit long sleeved pullover with boat neck in green, shown with harmonizing darker green corduroy skirt; a red brushed Orlon bulky knit $\frac{3}{4}$ sleeve pullover with cowl collar and matching flannel slacks; a cable stitch long sleeved green wool boatneck pullover with red plaid wool skirt; a flat knit gold color wool pullover with brown and gold checkered wool skirt. Also a Jacquard knit boat neck ski sweater with long sleeves, shown with a corduroy coat and flannel slacks.

College Display at Gimbels

A series of windows along Market St. at Gimbels department store proclaimed that "College & Career fashions have That International Look for 1960."

Campus fashions as featured in Glamour magazine were highlighted in Strawbridge & Clothier window displays.

Children's school fashions in Dewees windows headlined "Three Main Courses" featured a brushed wool cardigan and pullover set teamed up with a skirt a diamond pattern jacquard knit wool pullover with lapover boat neck and long sleeves, and a vertical contrasting striped wool pullover with collar and placket.

Knits Important In Indianapolis Fashion Preview

INDIANAPOLIS, Ind. — Knits were prominent in "Educated Fashions" presented by the Young Fourth Floor of L. S. Ayres & Co. department store.

For the "First Day Of School" group of fashions, a girl modeled a blue Orlon brushed ribbed knit pullover which had a collar and little buttons on the placket and a gray and blue plaid skirt.

A boy wore a brushed Orlon jacquard sweater with horizontal white stripes and a shawl collar.

A red brushed ribbed pullover was worn over a shirt with a red and brown pleated skirt. The Orlon sweater had a cross-over boat neck. A teal brushed Orlon pullover over a long sleeve white shirt, topped a pleated plaid skirt.

In radiant cranberry red, a bulky brushed Orlon cardigan with a collar was coordinated with a red print blouse and a red skirt.

A teenage boy, modeled a gold bulky Orlon pullover with brown horizontal stripe in a ski type with which he wore a dashing matching gold and white knit cap. His girl friend was smart in a bold bulky boy-style pullover in white with a horizontal gray and gold stripe in Orlon with a crossover boat neck.

A five-year-old boy looked cute in a bulky-Orlon cardigan with a shawl collar in gold and brown to top khaki colored cord slacks and shirt.

A young girl in a black jumper dress and white blouse, carried a bulky cable stitched Orlon turtle neck cardigan in gold.

Three girls, sat on pillows to talk over clothes and boys. One wore a gold Jamaica cablestitch cardigan over a gold print shirt. Another outfit, vibrant in cranberry red, was composed of a brushed wool and Orlon pullover, a blazer and slacks. Variety was added by a red and white print shirt. The third girl modeled a handsome gray ski pullover with a wide neck teamed with gray pants.

CALL US AT SUNRISE

FOR TOP PRICES ON WOMEN'S AND GIRLS'

- SWEATERS
- KNIT SUITS
- BATHING SUITS
- POLO SHIRTS

WE'RE ALWAYS OPEN TO BUY
... WE ALWAYS BUY FAIR!

Sunrise Knitwear Co., 1384 Broadway, New York 18 • LA 4-9020

YOU CAN GET MORE FOR YOUR SWEATER WASTE

Orlon — Wool — Ban-Lon — Fur Blends

SIDNEY ISRAEL, INC.

106 Calyer St., Brooklyn 22, N. Y.
For Best Prices — Fast — Call
EVERgreen 3-0200
We Do Business Everywhere

CALIFORNIA BRANCH — BUDDY FLAXER
445 South LaBrea Ave., Los Angeles, Calif. WEbster 3-5754

NEW REVOLUTIONARY METHOD OF CUTTING SWEATERS!

EXTREME ACCURACY

AT A FRACTION OF YOUR PRESENT COST!



CUTS—wool, cotton & synthetic fabrics

- fine gauge and bulkies
- up to 36 plies at one time
- bodies, sleeves, pockets, etc.

OPERATES ON HYDRAULIC DIE CUTTING PRINCIPLE

Used by leading European sweater mills for over 10 years

Can be operated by semi-skilled help

Maximum safety features built in

Minimum maintenance necessary

No vibration—no noise

You are invited to see this machine in operation at no obligation to you

MONTROSE SUPPLY & EQUIPMENT CO.

division of Montrose Oil & Belting Co., Inc.

EXCLUSIVE DISTRIBUTORS OF SANDY DIE PRESSES

FOR THE KNITWEAR TRADE

71 North 6th St., Brooklyn 11, N. Y.

STagg 2-7929

Obituaries

Services Held For H. H. Cohen

(Continued from Page 1)

or his loss measured. For his earnest and principled convictions he occupied a place of esteem, and for his warm and friendly relationships a place of affection. His interest in the industry reflected only one aspect of his many-sided personality. He was also a man of quiet, thoughtful cast and spiritual resources, as his closer friends came to know. The sadness of this loss will be widely felt."

A. Weissman, Board Allegro Knitting Mills

Abe Weissman, chairman of the board of Allegro Knitting Mills, Inc., New York City, died on September 3 following an automobile accident in which his wife, brother and sister-in-law were also involved. Mr. Weissman succumbed after he had directed arrangements for medical attention to the injured.

He was 70 years old and got his start in the industry with S. Schanzer & Bro. which later be-

came Henry Schanzer & Sons. He met his wife, Gussie, when they were both employees of the old-line infants' and children's wear firm.

Before forming Allegro Knitting Mills with his two sons, Bertram A. and Russell, he was in the wholesale dry goods business with his brothers Irving and Jack Weissman under the name of Weissman Bros.

Survivors include his wife and two sons, four grandchildren, two brothers, and a sister, Mrs. Silvia Schrier.

Interment took place at Mt. Hebron cemetery.

Jacob E. Epstein, 64; Malina Credit Manager

Funeral services were held last Thursday at the Riverside Chapel for Jacob E. Epstein, age 64, credit manager of Malina Co., yarns.

Mr. Epstein died on September 13 at the Beth Israel Hospital. He is survived by his widow, Anne, a son, Dr. Arthur Epstein, two daughters, Florence and Rosalyn and two brothers and a sister.

He was active in a number of credit groups and clubs in the textile industry.

INDUSTRY'S MARKET PLACE

Advertising rates: 5.50 per column inch per insertion. Positions wanted: \$5.00 per column inch per insertion. Minimum space—2 inches. Ads for Monday's paper must be in by preceding Wednesday, 2 P.M. Please enclose payment with your order.

NOTICE

The deadline for all ads for the issue of Sept. 26 is Tues., Sept. 20—12 Noon

Your cooperation will be appreciated

MACHINERY WANTED, FOR SALE

FOR SALE — SURPLUS MACHINERY

- 2—MLW Full Auto. 28", 11 cut, 48 end Elec. Stop Motion, 24 Feeds, Wheels, Jacq. Auto., 4 col strippers on each feed
- 1—TJ 28", 6 Feeds, 9 cut, 4 color Strippers
- 1—Phila. Jacq. 28", 24 feeds, 10 cut, Interlock Revolving Cylinder
- 2—Edmos 17", 25 feeds, 10 & 12 cut, 25 end Electric Stop Motion
- 1—Leighton 24", 6 feeds, 10 cut, 3 Needle rack
- 4—Grosser 2½ gauge Flat Power Full Auto. 32", 36", 40", 45"; 3 & 4 bar, 10 end Elec. Stop Motion, Knupen ½ & full card. locks
- 1—Circular 2½ gauge Sleever, 6½", 56 Needles, Automatic Tightening Attachment
- 1—Circular 2½ gauge Pocket Machine, 5", 37 Needles
- 1—Circular 2½ gauge Border Machine, 2¼", 20 Needles
- 1—3 Point Looper & Table
- 8—Stafford & Holt 19", 20", 22", 26", and 30", 8 & 10 cut Interlock and Rib
- 1—Kastrinsky 60" Calendar, Roller and Folding Table
- 1—CRA Spreader 36", #K 632 AC
- 1—Queens L & L Auto. power mach., double jacks, 54", 8 gauge, 4 bar #731

CLOVER KNITTING MILLS, INC.

'M' St. & Erie Ave., Phila. 24, Pa. Pioneer 4-1000

FOR SALE — CASH OR TERMS

- 1—Jacquard TAI, 30", 14¼ cut, 12 feed, 4 color strippers on each feed, set on pique stitch
- 2—Jacquard TAI, 30", 10 cut, 12 feed, 4 color strippers
- 2—Scott & Williams Interlock, 32 feed, 17 and 18½ cut, practically new
- 2—Jacquard TAI, 30", 16½ cut, 12 feed, with 4 color strippers on each feed
- 7—Leighton transfers, 14 cut, 13", 15", 16", 17" (3), 18", 4 feeds each, some have extra 9, 10 and 10½ cut cylinders and dials
- 3—Jacquard TA machines, 8 and 10 cut; 1-12", 1-15" and 1-17"; 4 feeds each
- 1—Jacquard LH, 9 cut, 30", 6 feed, with 3 color strippers
- 1—Wilcox & Gibbs label sewer for bulkies, stand and motor
- 2—Wilcox & Gibbs label sewers, stands and motors
- 1—68", 1-76", 1-78" 7 cut Roba. double jack machines
- 1—Kastrinsky Calendar, 54", latest type, with trolley and double steam box front and back

BEN WACHSMAN & CO.

Consultant for Appraisals and Liquidations
671 Bushwick Ave., Brooklyn 21, N. Y.
Glenmore 2-4936

QUALITY NOVELTY YARNS

Of course, we think so,
But more important,
Our customers tell us . . .
That MERCURY is the
House of Quality
Novelty Yarns of all fibers.

Ask for samples

MERCURY YARN COMPANY

225 Varick St. New York City 14 WA 4-4247

The House of Quality Novelty Yarns



THE INDUSTRY'S MARKET PLACE

Advertising rates: \$5.00 per column inch per insertion. Positions Wanted: \$5.00 per column inch per insertion. Minimum space — 2 inches. Ads for Monday's paper must be in by preceding Wednesday, 2 P.M. Please enclose payment with your order.

FOR SALE

- 1—30", 8 cut LH circular Jacquard
 - 1—28", 8 cut LH circular Jacquard
 - 1—30", 7 cut LA circular Jacquard
 - All with 3 color strippers
- BOX 3708**

WANTED TO BUY

- 2 Wildman Jacquard Model LH, 9 cut, 6 feed, 3 stripper boxes.
- 2 Wildman Jacquard TJ-12, 8 or 9 cut, machines for backs and cuffs, etc.

BOX 360A

METRIC

NUTS • BOLTS • TAPS • DIES • WRENCHES

METRIC ALLEN STYLE SOCKET HEAD CAP SCREWS
for all types of foreign equipment

IMMEDIATE DELIVERY FROM STOCK • CATALOGUE

VETERAN TOOL AND SUPPLY CO.

183 Grand Street, New York 13, N. Y. WOrth 4-5867-8

WANTED — HAND MACHINES

Flat V bed high and low butt, 4, 10 and 14 cut.

8 or 10 cut Links machines.

Hand Jacquard machines.

BOX 380E

BEST BUYS

3—Philip Mach., 32 feed, 30", 14, 14½ & 18 cut

- 1—Scott & Williams interlock, 32 feed, 14½ cut, 30"
- 2—Phila. Jacq. TJ1, 14¼ cut, 30", 12 feed, Jacq. automats
- 4—Phila. Jacq. TAI, 8¾, 13, 15, 16½ cut, 30", 12 feed, 4 col. strip.
- 1—Phila. Jacq. TJ, 10 cut, 30" 12 feed, 4 color strip., automats.
- 3—Phila. Jacq. TJ, 6, 7 & 8 cut, 28", 6 feed, 4 col. strip.
- 4—Phila. Jacq. LH, 6, 7 & 8 cut, 30" & 28", 6 feed
- 1—O.G., 32", 36 feed, 8 cut, multi-feed jersey and 1 x 1 rib
- 2—Phila. Jacq. LA 30", 12 feed, 7 & 10 cut, 3 col. str.
- 2—Leighton transfers, 6½ & 10 cut, 32" & 34", 9 feed, 4 col. str.
- 1—Leighton transfer, 18", 10 cut, 6 feed, striping boxes
- 8—Phila. Jacq. TA, 11" to 20", 4 feed, 6 to 12 cut
- 1—Phila. Jacq. TA, 30", 10 cut, 12 feed, 4 col. str., extra cyl. & dials.
- 1—Phila. Jacq. MLW, 28", 11 cut, 24 feed, automats & wheels
- 4—Wildman PB2, 15", 17", 18", 28", 8 and 10 cut
- 2—Queens Model "B", 63", 9 & 12 cut, High & Low needles, Jacks
- 2—Lamb double head border machines, 7 & 8 cut, with motors
- 2—Supreme flats, 44", 7 cut, high & low butt
- 1—Dubied BAN, 56", 12 cut, Jacquards front & back
- 1—Supreme flat mach., 5 cut, 36"
- 1—Kastrinsky calendar mach., 36", with trolley
- 1—Universal border mach., 12 cut, 24", like new

Joseph Kopelowitz, Inc.

APPRAISALS — LIQUIDATIONS — FINANCING

600 Broadway, Brooklyn 6, N. Y.

EVergreen 7-1145

Cable: Josko Inc., New York

FOR SALE

- 3—Burlington S.S. pkg. dye mach., 300 lb. cap.
- 4—Supreme jersey, 18", 18 cut, 24 fd., patt. wheels
- 1—Brinton 24", 20 cut, 64 feed
- 3—Brinton 24", 18 cut, 64 feed
- 6—Wildman interlock, 26", 24 x 24 cut, 24 feed
- 1—Morat, 30", 24 feed, 16 cut
- 1—Brinton PR 19, 24", 10 cut, 16 feed
- 4—Jacquard TAI machines, 30", 13½ cut, 12 feed
- 2—Jacquard LH machines, 30" 7 cut, 6 feed
- 2—Jacquard TJI mach. 14¼ cut, 30", 12 fd., with 4 col. str.

SPEIZMAN KNITTING MACHINE CORP.

Main Office

N. Y. C. Office

508 W. 5th ST., CHARLOTTE, N. C. 350 5th AVE., NEW YORK 1, N. Y.

Phone ED 4-5546

Phone PE 6-0451

LIST OF MACHINERY AND SUPPLIES

FOR SALE

- 1—4 section Blackburn full fashion body machine, 32½", needle bed

- 1—4 section Blackburn full fashion body machine, 28", needle bed

The above machines are complete with motors and chains ready to operate. These machines have been completely overhauled and rebuilt by Bearing Products. They are in first-class running order. Both machines are 25 gauge.

- 1—Dubied flat, fully automatic collar machine, 10 cut, 24" needle bed.

No motor with above machine but can be belted to other machines.

- 1—Dubied flat, fully automatic rib cuff bottom machine, 12 cut, 27" needle bed. With motor.

Above machines are in good running order.

- 1—Model "P" looper, new, "2186"—P 14 point complete w/table and motor

- 1—Sotco looper #28132-3, 14 point complete w/table and motor

- 1—Union Special seamer style 104 — 41300 AXX Serial 499083. This machine is new.

- 1—Steam table — size 24 x 60

- 1—Table for topping 38' x 6'

- 1—Table for inspecting

L. J. SAUNDERS

708 Frankfort Ave. W., Cleveland 13, Ohio

CHerry 1-3817

FOR SALE

2 Philadelphia Jacquard TJI, 14¼
cut, 30", 12 feed, 4 color strippers.
Midway 7-1151 or BOX 257

WANTED

5 or 6 cut Jacquard TA or TAI machines.
Walker 5-9073

FOR SALE

8—flat Links machines. Perfect condition.
Can be seen in operation.
BOX 380A

YARNS WANTED, FOR SALE**WE BUY AND SELL**

Worsted — Synthetic — Blends

AT BEST PRICES!



EDFORD YARN CO.

MAIN 2-1348
Brooklyn, N. Y.
79 Clifton Place

WILSON YARN CORP.

141 Wilson Ave., Brooklyn 37, N.Y.

GL 6-9686

H. BERMAN

WE PAY
TOP PRICES
FOR
SURPLUS YARN

**We Buy & Sell
WORSTED & SYNTHETIC
YARNS**

We carry in stock
all colors and
all sizes for the
knitting trade!

FOR SALE

ELASTIC YARN FOR KNITTING

• All Sizes and Colors



EDFORD YARN CO.

79 Clifton Place
Brooklyn, N. Y.
MAIN 2-1348

FOR SALE

2/20 worsted yarn on cones — 600 lbs. blue heather — 600 lbs. rust heather
300 lbs. green heather — Guaranteed first quality. Much below market price.

CENTURY YARN CO.

686 Flushing Ave., Brooklyn, N. Y.

EV. 8-8277

FOR SALE

2/32 Turbo Orlon acrylic, natural . . . 1600 lbs.
2/30 Turbo Orlon acrylic, lt. grey heather . . . 1200 lbs.

BOX 380H

CONTRACTORS WANTED, CONTRACT WORK WANTED

**CONTRACT WORK WANTED
ON FULL FASHIONED
21 GAUGE MACHINES**

fur blends, Ban-Lon, Orlon, Creslan and all other yarns.
Ladies' classics and novelties. Men's shirts. Equipped
to make many various styles.

BOX 384

WANTED**MILL TO MAKE BULKIES**

Top notch jobber has year-'round work for a
reliable mill with substantial Bulky production
on 4 cut flat machines. This is a very unusual
opportunity for the right mill.

BOX 382

WANTED

**MILL TO MAKE LADIES' CLASSIC
INTERLOCK BAN-LON SWEATERS**

Jobber has large order for a good
mill who can make quality ladies'
Ban-Lon interlock classics at rea-
sonable prices. Reply immediately.

BOX 389

CONTRACT WORK WANTED

on men's interlock Ban-Lon shirts.

BOX 370

CONTRACT WORKWANTED

on 4 and 5 gauge flat machines. Ladies' and men's sweaters. Excellent workmanship.

BOX 150C

CONTRACT WORK WANTED

on 14 cut, 26" New Supreme's ROF-RO. Plated and regular loop machines. LOCATION IN MIDWEST.

BOX 387

CONTRACTOR WANTED

On fine gauge LH and TJI's. Excellent opportunity for year round production with top national brand line. Call Mr. Herbert

BRyant 9-2356 or write BOX 370M

LARGE FULL FASHIONED MILL

•

located in Puerto Rico is interested in doing contract work for substantial men's or ladies' house on Ban-Lon shirts, etc. Interested parties please write

•

BOX 370F

HELP WANTED**SWEATER DESIGNER AND PRODUCTION MAN**

wanted by top sportswear house.

Top salary.

BOX 380

KNITTER-MECHANIC WANTED

for full fashioned, 21 gauge machine. Fully experienced. Steady work year round. Good opportunity for right man.

BOX 380C

SALES MANAGER — STYLIST SWIMSUITS

Excellent opportunity for good all around man with proven sales background and some knowledge of production for swimsuit manufacturer. Liberal salary and percentage. Write giving full details in confidence to:

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QUALIFIED PRODUCTION MAN WANTED

Experienced in Full Fashioned and Cut and Sewn Sweater Lines

New England mill has interesting position open with growth potential for accepted applicant. Send full resume with initial reply.

BOX 385

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First class. Experienced on TJI and Links machines. Must reside in New York area. Company benefits. Write:

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9½ x 13—G.001 @ \$5.00 per M—G.00075 @ \$4.25 per M
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Presently employed. Practical production and administrative experience with mill in all phases of production from knitting to finished garment, quality control, yarns, etc. Desires position as Production Man or Production Coordinator.

BOX 383

PRODUCTION MAN AVAILABLE

Young, responsible man has experience with mills and jobbers. Has thorough working knowledge of ladies' knit goods. New York area preferred.

BOX 386

OFFICE MANAGER — ACCOUNTANT AVAILABLE

Heavy experience multi-corporate sales, manufacturing in knitwear. 7 years full control of office. Credits, collections and financing.

BOX 380D

KNITTER MECHANIC AVAILABLE

25 years experience on circulars, flats and all Jacquards, including TA, TAI, TJI. Will relocate. State details.

BOX 381

BUSINESS OPPORTUNITIES**MILL FOR SALE**

Can produce 300 dozen weekly on fine gauge interlock. Can be seen in operation.

BOX 380B

KNITWEAR SALES ORGANIZATION AVAILABLE!

To distribute direct to department, specialty and chains—situated in the heart of America—covering Northwest, Southwest, Pacific Coast. We seek reputable manufacturers of fine quality men's, boys, women's, children's and infant's knitted outerwear and sportswear. For complete information write

BOX 380J

TRADE WANTS

RATES: one insertion—35 cents per word. Words set completely in capitals—40 cents per word. Box numbers count as two words. Minimum cost of advertisement—\$5.50. Minimum cost of Positions Wanted advertisements—\$5.00. Trade Wants for Monday's paper must be in by preceding Wednesday 2 P.M. Please enclose payment with your order.

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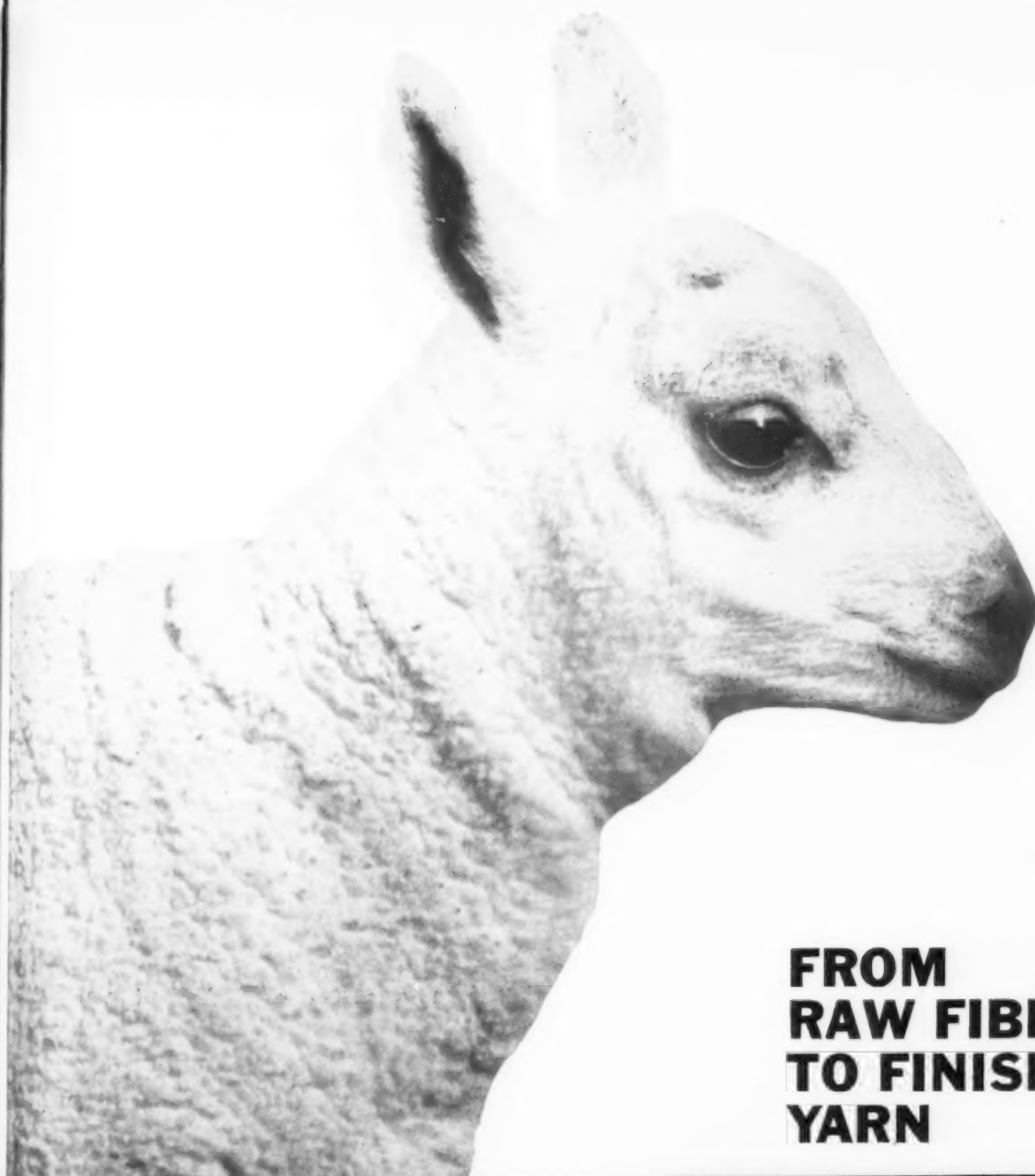
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